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ABSTRACT

This document is comprised of volume 13 of the Harvard Education Letter, published bimonthly and addressing current issues in elementary and secondary education. Articles in the six issues of this volume include: (1) January-February --"Making Detracking Work" (Lynn and Wheelock), "Developing a Culture of High Expectations for Teaching and Learning" (Lynn and Wheelock), "Navigating the Political Waters" (Lynn and Wheelock); (2) March-April--"Making Schoolwork More Like Real Work" (Steinberg), "A Change in the 'Basics': Today's Graduates Need More Than the 3 R's" (Steinberg), "Clapping with One Hand: Why the School-to-Work and Standards Movements Should Be Linked" (Vickers); "A Conversation with Dennis Littky and Elliot Washor", "A National Response to Quality Counts," containing opinions of political and educational leaders (March-April supplement); (3) May-June--"A New Consensus Emerges on the Characteristics of Good Professional Development" (Lewis), "A Conversation with Linda Darling-Hammond," "System-Wide Professional Development" (Lewis), "Teacher Research as Powerful Professional Development" (Check); (4) July-August--"Language-Rich Home and School Environments Are Key to Reading Success" (Lynn), "Connecting Home and School: A Conversation with Catherine Snow," "Smaller Classes Do Make a Difference in the Early Grades" (Mosteller), "Shrinking Pains: California's Initiative to Reduce Class Size Is Off to a Bumpy Start" (Lewis); (5) September-October--"Making the Connection between Families and Schools" (Mapp), "Family Involvement in Schools: It Makes a Big Difference, but Remains Rare" (Lynn), "A School Called Victory: The Ongoing Pursuit of Parent Involvement" (Lynn), "Teaching Teachers to Work with Families" (Lynn); and (6) November-December--"Technology Works Best When It Serves Clear Educational Goals" (Harrington-Lueker), "Integrated Learning Systems Update"

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(Harrington-Lueker), "Rethinking Homework" (Tovey). Regular features include letters to the editor and summaries of recent educational research. (KB)

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SCHOOL REFORM

Making Detracking Work

Successful detracking means paying careful attention to the process as well as improving content and instruction

BY LEON LYNN AND ANNE WHEELOCK

In 1985 Sue Galletti was a first-time principal assigned to a school serving 650 students in grades 6 though 8 in a small, upscale community near Seattle. A long-standing pull-out program for gifted and talented students called for the selection of 25 7th-graders each year to take part in an enriched curriculum built around a three-period "humanities block" taught by a popular and respected teacher. "The same students were usually placed in the only algebra section, and in band," Galletti recalls. They also took a no-credit foreign language class at the local high school each morning before the middle school day began, riding from one campus to the other on a special bus. "They were essentially together for most of the day," she says.

From the Guest Editors:

This special issue of the *Harvard Education Letter* is devoted to detracking. Evidence is mounting that schools that reserve the highest quality educational opportunities for the "best" students — as determined by a selection process that is often flawed and discriminatory — are denying many students the opportunity to achieve their full potential. This injustice is made even more onerous by the rising importance of standards-based school reform, which seeks to hold all students and schools accountable to higher levels of learning. Schools simply cannot embrace high standards for all students without addressing the barriers that prevent many students from equal educational opportunity.

Detracking is a complex process and differs from school to school. But in all cases, those who seek to detrack schools must keep certain fundamental principles in mind. This special issue of the *Harvard Education Letter* includes three articles, each of which addresses one of these major principles. The first article covers the development of challenging content and instructional practices for all students. The second article deals with the importance of changing the culture and norms within a school that is detracking. The third calls attention to the political aspects of the detracking process. We hope these articles provide useful information, as well as inspiration, for educators and communities seeking to end the practice of tracking. We would like to thank Leah Meyer Austin at the W. K. Kellogg Foundation for funding this special issue.

LEON LYNN AND ANNE WHEELOCK

Students were chosen for the prestigious program based on IQ scores, performance on standardized tests, and teacher recommendations. Competition was tough. There were always more bright, capable students who wanted to be included than there were spaces to fill. "Some of the students who weren't picked would cry," Galletti says. "They would feel so ostracized because they couldn't take part. And that just destroyed me." That's what convinced her that the program had to go.

Galletti soon realized, however, that eliminating the pull-out program would be more difficult than she had imagined, despite mounting evidence supporting detracking. For example, researchers Jeannie Oakes, Adam Gamoran, and Reba Page show that tracking exerts a negative impact on many students' attitudes toward learning and undermines achievement by limiting many students' access to challenging curriculum. At the same time, educators such as Joan Cone, Richard Marsh, and Mary Anne Raywid describe schools in which students of all abilities flourish in heterogeneous classrooms. However, the process of detracking re-

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mains one of the most complex challenges that public schools face. Galletti's experiences illustrate some of the obstacles that educators must overcome as they seek to eliminate tracking in their schools.

A Complex Process

Galletti began by giving parents articles and research that described the pitfalls of tracking, while at the same time leading staff-development activities aimed at helping teachers deliver a curriculum "that included rich experiences and high expectations for all students, not just a few." She encouraged interdisciplinary curriculum, cooperative learning, hands-on activities, and a stronger focus on developing students' critical thinking skills, "activities you would normally see at workshops on teaching gifted students," she says. "At every staff meeting I was telling teachers to teach all students as they would teach the brightest."

> ***They hadn't realized how unfair it was to select 25 kids for a special class.***

Many teachers were skeptical at first. "They felt that they had to teach to the middle range of students' abilities in a class, in order to try and reach most kids," Galletti said. "They didn't realize they were lowering their expectations. They thought that if they had high expectations for all students that they would lose kids."

Meanwhile, support for eliminating the pull-out program was not swift in coming from other quarters. "It had become a major issue for parents to get their children into that track," she says. "I was not very successful educating the parents who had influence, who went to board meetings and knew board members," many of whom already had students in the pull-out program or hoped their children would one day be chosen for it.

To counter the articles and research Galletti had cited in support of detracking, some parents "quickly found articles of their own on the importance of gifted programs," she recalls. The teacher who ran the pull-out program also resisted, "and she knew how to politically activate parents.... I soon realized I was banging my head against the wall. People perceived that I had something against gifted children, that I didn't support them, that I didn't support high achievement on the part of students."

That was when Galletti realized that the decision to detrack was not just an educational issue. "It was a political issue, too, and had to be treated like one," she emphasizes.

So Galletti stopped saying she wanted to "eliminate" the gifted and talented program. "That word was really getting in the way," she says. Instead, she began to talk about expanding the program to all students. She also opened new dialogues with potential allies, including teachers who were upset at losing some of the school's brightest students to a pull-out program, and parents whose children weren't being selected. "For some reason they [the parents] had chosen not to become involved," she says. "I felt it was part of my job to help empower them."

One day she met with 30 parents who were among the most vocal supporters of the pull-out program. "I gave them the data on 200 6th-graders, with no names attached," she says. "I explained the process we used to select students for the [gifted] program, and I said, 'Now it's your turn.' They started messing with the data and they started to see things they didn't like. They saw a student with good test scores who wasn't going to get in because he had an IQ of 129 (the cutoff was 130). They saw another student who had an IQ of 149 who was out because he didn't have high enough test scores."

"They started getting very uncomfortable. And then I told them, 'What I want you to realize is that a number of you in this room won't be able to get your children into the gifted program because of the exercise you are going through right now.' It had a real impact on them. They hadn't realized how unfair it was to select 25 kids for a special class when there were so many talented kids in the school. And they saw how their own children could get squeezed out by a ridiculous technicality."

The parents "started saying that maybe we should have two gifted classes instead of just one," Galletti says. That opened up a new dialogue, which translated into broader support for expanding the enriched curriculum to all students.

> ***Schools that are detracking are careful not to "water down" content.***

A year after Galletti realized she needed to approach detracking in a new way, the pull-out program was dismantled and its students were divided evenly among the regular 7th-grade classrooms. (They were still identified as gifted, however, in part because the school received special state funding for gifted education.) The teacher who had run the pull-out program became a resource teacher, working with all the other teachers, "and she loved it," Galletti says. Some parents remained skeptical, "but once they saw the rich curriculum their children were getting in the classrooms, their attitudes changed," she recalls.

And perhaps most importantly, the students loved the new curriculum too. Surveys taken after the first year showed that the gifted students enjoyed the broader contact with their peers, and that students who would have been denied a richer curriculum under the old system appreciated the new opportunities.

A Growing Trend

Galletti is now director of middle schools for the National Association of Secondary School Principals. A big part of her job is providing principals with staff-development resources to support their efforts to improve their schools. "We are getting a lot of requests for support on detracking," she reports. "It is definitely a hot topic."

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It's difficult to say how many schools are now engaged in detracking, especially since the concept and its implementation can vary greatly from school to school. But there is evidence that increasing numbers of schools are implementing key elements of the detracking process. For example, a 1996 study by the National Middle Schools Association found significantly more support for assigning students to groups randomly, rather than sorting them by ability. In 1988, the study says, about 25 percent of middle schools serving students in grades 6 through 8 practiced random grouping; by 1993, the number had risen to nearly 50 percent.

While support for detracking may be growing among educators, the process nevertheless remains a major challenge for most schools. Educators consistently report that detracking is a complex process that involves more than the simple regrouping of students. It also involves extending the high expectations usually attached to the top-scoring students to all students, and ensuring that they all have access to challenging content in their heterogeneous classes.

Change on Three Levels

As UCLA tracking researcher Jeannie Oakes has noted, schools that are detracking confront the need to change on three levels. First, schools must introduce technical changes in curriculum and instruction to fit more heterogeneous classrooms and make them work in new and different ways. Second, schools must replace their old culture and norms with a new culture of inclusion, equity, and achievement supported by new school routines and beliefs about learning—the hallmark of schools that are detracking. Third, schools must recognize that detracking is a political process involving the reworking of relationships, both within a school and between the school and its constituencies.

The detracking process is different for every school. It depends on preexisting dynamics, especially the context of the community and the existing beliefs of educators. How to proceed, and which order to pursue in taking steps in each of these three critical realms, depends on each situation.

Changing the Curriculum

Making heterogeneous classrooms work requires a skillful combination of challenging content and a variety of learning strategies, so that diverse groups of students will be able to understand that content. Practices such as Socratic seminars, project-based learning, and well-structured cooperative learning can help motivate students to become active participants in learning.

Whatever the pedagogical approach, schools that are detracking are careful not to "water down" content. As University of Wisconsin researcher Fred Newmann and his colleagues have pointed out, learning that appears to be more "active" can be just as devoid of high-quality academic content as "passive" lectures and skill drills. Just because students are no longer sitting quietly in rows doesn't automatically mean they are learning more. To address this important issue, many schools that are detracking emphasize that students' active participation must occur in tandem with access to curriculum that has significant and recognized meaning or value. These schools begin with the assumption that all students are entitled to the kinds of learning opportunities that only "top" classes in tracked schools might have, such as the study of "real" literature, math, and science that have not been broken down into fragmented skills.

Increasing numbers of schools are implementing key elements of the detracking process.

Recent research confirms the importance of content itself for learning. In their study of 92 8th- and 9th-grade English classrooms of different academic levels, University of Wisconsin researcher Adam Gamoran and his colleagues found that access to real literature made a difference in improved student achievement, but that students were more likely to discuss such literature in the "top" groups than in the "low" groups. In the classes they studied, only 31 percent of the questions teachers posed to students in remedial classes concerned literature text, compared to 73 percent in top-level classes.

Recent experience in the New York City schools offers more evidence that access to challenging content is key for learning and future educational opportunity. In 1994, the district began requiring all 9th graders to take college-prep math and science courses, instead of the easier remedial courses such as "consumer math" that many lower performing students had been taking. This move immediately made the higher level classes more heterogeneous: While African Americans and Hispanics account for more than 70 percent of New York City students, less than half of them had enrolled in the higher level courses in the past. Failure rates did go up slightly under the new directive, but thousands of additional students passed the college-prep courses—which were "gateway" courses to better educational opportunities—and the number of African American and Hispanic students passing them doubled in the first year.

Students who need additional help to pass the tougher courses are supported in a variety of ways, says Anthony Viteritti, Administrator of Curriculum Initiatives in the Office of Program Development within the Division of Instructional Support for the New York Board of Education. Some take an extra period of math every day, while others take the tougher class over three semesters, not just two. These changes in schedule are combined with "strong professional development...to help teachers make the course work more accessible, more appropriate for the students they are teaching now," he says. An important factor in the program's success is that teachers spent almost a year preparing before the remedial courses were eliminated, allowing them time to attend professional development workshops and engage in other training.

Beyond Basic Skills

As most schools are learning, making detracking work means moving away from a curriculum in which students must master "basic skills" before they are given opportunities to experience learning for understanding. Instead, schools must create learning opportunities that are more conceptually focused, with less emphasis on breadth of coverage—getting students to memorize a few facts about many topics—and more emphasis on depth of coverage, critical thought, and analysis. Schools that are detracking still insist that student work reflect traditional basic skills, but they develop strategies to teach these skills in the course of helping students pursue understanding through long-term projects.

The challenge for schools that are detracking, then, is to offer meaningful curriculum for all students—even those whose basic skills are not letter perfect. Edna Varner, principal of Chattanooga's Phoenix II Middle School in Tennessee, insists that the challenge can and must be met. "People sometimes think you can't teach the classics to non-readers," she says, "but I love teaching [Homer's] *The Odyssey*. Even if they aren't readers, they can understand the basic issues: pride, the return home, humbleness. You just have to know how to teach it correctly."

Varner's school is one of five in Chattanooga using the Paideia school model, first described in *The Paideia Proposal* by Mortimer Adler in 1982. The hallmark of Paideia schools is that students engage in in-depth discussions about their reading core curriculum texts in heterogeneous Socratic seminars. Readings include challenging news-magazine articles, literature, and other "real world" materials. (For more information on Socratic seminars, see "Conversations in Classrooms: Who are Seminars For?" HEL, March/April 1992.)

In Chattanooga, teachers committed to providing equal opportunities to students of diverse backgrounds have latched onto Adler's vision of schools in which all students have access to a single-track, liberal arts curriculum, and in which 80 percent of the learning is "active learning" that promotes learning for understanding and prepares all students for lifelong learning, work, and citizenship in a democracy.

When learning for understanding is the purpose of Socratic conversations, diverse perspectives become assets for learning. As Varner notes, "Students need to know that some of the most important questions in their lives will not have a single 'right' answer. You can memorize the Pledge of Allegiance, but that's different from realizing what it means to pledge allegiance. That's the difference between reciting an answer and developing understanding, knowing that these are questions people have struggled with for centuries, and now it's our turn, and people will still be dealing with these issues in 100 years."

Help Where It's Needed

What happens when detracking schools put together a variety of curriculum resources so that all students have equal access to challenging curriculum in heterogeneous groups? Johns Hopkins University researchers have been piloting such a model with success at Central East Middle School, Philadelphia's first "Talent Development School." At Central East, the Talent Development model combines two curricula that have produced higher achievement outcomes—a literature-based cooperative learning curriculum called Student Team Reading/Student Team Writing (STR/STW) and a core curriculum in mathematics based on the Chicago School Mathematics Pro-

Resources on Detracking

Joyce Epstein and Karen Clark Salinas. ***Promising Programs in the Middle Grades.*** Reston, VA: National Association of Secondary School Principals, 1992. For educators in the middle grades who are looking for ways to help low-performing students without tracking them. Includes specific program and contact information for mathematics, reading, writing and language arts, thinking skills, science, and social studies.

Ann Ross and Karen Olsen. ***The Way We Were ... The Way We CAN Be: A Vision for the Middle School through Integrated Thematic Instruction.*** Kent, WA: Susan Kovalik and Associates, 1995. Questions the traditional junior high curriculum and proposes a new model that accommodates multiple intelligences, helps teachers create enriched environments for all students, provides practical steps for curriculum development, and suggests assessment methods.

Anne Wheelock. ***Crossing the Tracks.*** New York: New Press, 1992. Provides many concrete suggestions for educators engaged in detracking by detailing the efforts of "front-line" principals and teachers. Includes examples of organizing students to promote diversity, providing high-level curriculum for diverse groups, and delivering instruction in areas considered difficult to detrack, such as mathematics.

Jacqueline Grennon Brooks and Martin G. Brooks. ***In Search of Understanding: The Case for Constructivist Classrooms.*** Alexandria, VA: Association for Supervision and Curriculum Development, 1993. Uses rich descriptions of classroom practice, and their connection to underlying theory, to illustrate five overarching principles of constructivist pedagogy: posing problems of emerging relevance to learners; structuring learning around "big ideas" or primary concepts; seeking and valuing the student's point of view; adapting curriculum to address student supposition; and assessing student learning in the context of teaching.

Sandra L. Schurr. ***Prescriptions for Success in Heterogenous Classrooms.*** Columbus, OH: National Middle Schools Association, 1995. Offers guidance for teachers as they deal with growing student diversity in their classrooms. Details and illustrates 28 major teaching strategies, each cast as a prescription for students with different abilities, interests, learning styles, and cultural backgrounds.

Elizabeth Cohen. ***Designing Groupwork: Strategies for the Heterogenous Classroom.*** Columbus, OH: National Middle Schools Association, 1994. Combines easy-to-follow theory with adaptable teaching strategies drawn from the experiences of hundreds of middle-school teachers in untracked classrooms.

Effective Strategies for Teaching Gifted Students in Detracked Schools: An NASSP Middle Level Conference for Principals and School Teams, **February 9-11, 1997, San Diego, CA.** This conference, hosted by the National Association of Secondary School Principals and the Association of California School Administrators, will cover strategies for community involvement, staff development, classroom and instructional practices, and organizing and grouping students. Call 800-253-7746, ext. 238 for registration information.

Teaching Gifted Students in the Regular Classroom: An ASCD Institute, **March 21, 1997, Baltimore, MD.** This conference by the Association for Supervision and Curriculum Development will provide practical strategies for differentiating instruction to help teachers nurture the particular talents of all students in a classroom. Call 800-933-2723.

National Paideia Center, University of North Carolina, School of Education, Campus Box 8045, Chapel Hill, NC 27599-8045; 919-962-7379. Provides workshops, conferences, and other resources for educators interested in the Paideia model of teaching and learning.

ject. In the Talent Development model, some students receive a "double dose" of certain courses so that no one falls behind. Central East's rising achievement scores show the power of combining such high-content curricula with extra support.

In Central East and other schools that are detracking, making an ambitious curriculum available to all students means providing both extra time and extra help to students who need it. This involves extra enrichment for needy students, a much different approach than shunting them off to low-skill, dead-end sections.

At Louis Armstrong Middle School in Queens, New York, students who need extra help with math take extra math classes during elective periods, says Fran Curcio, a faculty member at New York University. Curcio, formerly on the faculty of Queens College, spent 10 years working with teachers at Louis Armstrong through a collaborative agreement between the college and the school district. Curcio notes that when lower ability students get the support they need to stay in class with more successful peers, "after a while the kinds of questions they ask start to sound like the questions the more successful students ask.... It's not that they are parroting the more successful students. They're developing the same kinds of critical thinking skills, in part through collaboration with kids who are perhaps a bit further along."

In some schools, keeping students with different skill levels engaged in the same classroom means learning to deliver "differentiated curriculum," says Tom Yarabinetz, director of secondary education and personnel for the Greensburg Salem School District near Pittsburgh. "It's important to work in ways that stimulate students at different levels," he says.

> ***"Students need to know that some of the most important questions in their lives will not have a single 'right' answer."***

In a differentiated classroom, the teacher needs to monitor each student's progress. As Yarabinetz explains, "The teacher should be able to decide who needs enrichment, who needs acceleration, when to use cooperative learning, when to use peer-to-peer tutoring." Sometimes teachers will decide that a few students need to be grouped for particular exercises or skill work, based on their interests or abilities or needs. But that must be done in a way that doesn't resemble tracking. "That must be a constantly changing group....You don't put 15 kids aside at the beginning of the year as the geniuses," he says. "We want to see constant changes in groupings, based on constant teacher assessments of the needs of all students."

Different schools come up with different ways to help all students keep up with challenging curriculum. Some use their Title I classes to "jump-start" learning for some students, exposing them to content and skills *before* those elements are introduced in the heterogeneous class. Others develop extra-time opportunities through before- or after-school coaching or Saturday classes. In some schools, students receive a "double dose" of instruction when teachers arrange for enrollment in two classes in a particular subject. In others, volunteers come into the school to increase the number of adults available to assist students in key classes. For example, when Montclair High School in Montclair, NJ, introduced a heterogeneously grouped 9th-grade English class, it also trained dozens of volunteers as writing coaches to critique student work and provide individual help to students in the school's writing lab. These types of techniques can help schools maintain high standards while accommodating students with different learning styles.

Anne Wheelock is an education policy writer and author of Crossing the Tracks: How "Untracking" Can Save America's Schools.

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SUCCESSFUL DETRACKING

Developing a Culture of High Expectations for Teaching and Learning

Schools must be redefined as places where all students, not just a lucky few, are expected to succeed

BY LEON LYNN AND ANNE WHEELOCK

Detracking clearly requires new curriculum, instruction, and extra support for students and teachers. However, successful adoption of innovations in these areas depends a great deal on developing a "culture of detracking" in each school that influences educator's beliefs about students' intelligence and capacity to learn.

Tracking and sorting practices rest on the old belief that "some kids have it and some don't." Schools that are detracking, on the other hand, act out of a different system of beliefs, based on the assumption that all students can "become smarter" and that schools are responsible for providing them with the opportunity to do so. Drawing on new understandings about cognitive development and new assumptions about the multiple dimensions of intelligence, as described by cognitive psychologists such as Daniel Keating and Howard Gardner, schools that are detracking work to ensure that all students have equal access to all the resources the school has to offer, including library and computer resources, field trips, and co-curricular activities. These resources are not treated as "rewards" for the "best" students, but as learning opportunities that all students need and deserve.

Supporting Teachers

Teachers clearly need to be well-trained if they are to undertake complex tasks such as delivering new and differentiated curriculum, and schools that are detracking consistently report that professional development is a key ingredient in the school change process. Professional development to support detracking efforts generally involves strengthening teachers' skills in team building and participatory planning for school change; providing time for teachers to visit heterogeneously grouped classes in demographically similar schools; reviewing methods for communicating high expectations to all students; developing skills in mastery learning and cooperative learning; implementing "high-content" curriculum; and designing curriculum-embedded assessment strategies.

> ***Principals must let teachers know that they need not be afraid of failing at first as they try new approaches.***

At Phoenix II Middle School in Chattanooga, Tennessee, principal Edna Varner notes, "We conduct an institute every summer with a whole catalog of offerings" on cooperative learning, authentic assessment, and other critical topics. Teachers also get release time during the school year for enrichment, and professional development activities take place during faculty meeting periods and planning periods scheduled into the school day. "We do a lot of peer coaching and cross observations" in which teachers observe each other's teaching, she says. "We want to see conversations about what's good teaching." Teachers also take part in Socratic seminars on teaching, making use of the same techniques that guide much of the students' work. "Teachers must be learners too," Varner emphasizes.

Acknowledgment

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Above and beyond specific efforts, teachers and principals alike recognize the importance of establishing a safe professional climate that promotes risk taking and encourages teachers' openness to experimentation. Fostering this climate means that principals must let teachers know that they need not be afraid of failing at first as they try new approaches. Staff development must be more than a one-shot event and become an accepted part of the school culture that treats teachers as professionals who must keep up with current issues in their field.

In order to provide high-quality professional development that supports school change, a number of principals have turned to local foundations, or formed alliances with school reform networks or universities. For example, Canton Middle School in Baltimore has received support from local foundations and benefitted from participation in Maryland's network of middle schools (which is working to implement the recommendations of *Turning Points*, the 1989 report of the Carnegie Council on Adolescent Development, which called for reducing tracking in the nation's middle schools).

These alliances are often helpful in providing professional development and support. The Burnett Academy in San Jose, CA, is a member of the Accelerated Schools Network, which provides technical assistance in school restructuring through a staff development process. New York City's School for the Physical City participated in the professional and curriculum development activities of Expeditionary Learning, one of the nationally recognized New American Schools projects. Louis Armstrong Middle School in New York City has long received professional support through collaboration with Queens College. These types of arrangements provide more than just financial support for schools that are detracking; teachers also benefit from the collegial relationships that develop as they become part of larger teacher networks for reform.

The shift in culture that must accompany detracking is often far deeper, and perhaps far more encompassing, than many educators realize. "Only a few teachers have a sense of the enormous normative shifts detracking requires of a faculty," reflects researcher Jeannie Oakes. How, then, can educators begin to develop a new set of beliefs and norms that will fertilize the ground in which new practices can take root? Oakes and her colleagues at UCLA's Center for Democratic School Communities propose a site-based critical inquiry process. In this process, teachers don't just talk and plan together, but address the ideologies about intelligence, racial and social stratification, white supremacy, and elite privilege that support inequalities in schooling.

> ***Counselors often control access to valuable knowledge.***

An outside partner can frequently help create a structure in which teachers feel safe to engage in critical inquiry. The Los Angeles-based Achievement Council has played this role with many secondary schools that are detracking. As Ruth Johnson of the Council notes in a new guide to critical inquiry, detracking efforts benefit from schools' examining their own data to "kill the myth" that some students are not able to meet high expectations. As schools review the patterns that emerge from their data, dissatisfaction with the status quo grows, and teachers respond with a heightened sense of urgency about establishing new expectations and opportunities for their students.

Counselors Are Key

Students' success in schools that are detracking depends on developing a school culture that honors all students' educational and occupational aspirations and provides all students with the information and support they need to realize their goals. Key to this change is a shift in the role of the counseling staff from sorting students to motivating everyone to achieve academically. Counselors are key to helping students and their parents understand the steps necessary to progress toward their goals. For example, counselors may need to work with students in selecting appropriate and challenging courses, or help students and their parents fill out college applications.

In traditional schools, counselors

have often played the role of "gatekeeper," sorting students for the future roles deemed most "suitable" to their perceived ability. Counselors often control access to valuable knowledge about the requirements for college admissions, career paths, and scholarships. They often have the power to keep students out of particular classes and programs, and to require their enrollment in others they deem more suitable.

Students' negative experiences with counseling in tracked settings often "level" their aspirations, and undermine their belief that they can succeed in higher level courses. In a recent study of 10 racially and socioeconomically mixed secondary schools, UCLA researcher Susan Yonazawa and her colleagues found numerous ways in which counselors directly or indirectly guided students into "leveled" classes in ways that tended to reinforce patterns of racial and social separation. In one school, a counselor reported that she would not permit high-track students to take courses that were less challenging than she felt they needed. At the same time, low-income students in the same school were actively discouraged from taking higher level courses, even when they persistently asked to do so. In another school, a counselor reported that she required students with low standardized test scores to take a reading comprehension test before allowing them to enroll in high-level courses, even when the school's official policy allowed for student decision-making in course selection.

In San Diego County, CA, a program called Achieving Via Individual Determination, or AVID, delivers extra support to students identified as "underachievers." Created in response to the underrepresentation of Hispanics and African Americans in high-level classes, and implemented in several states, AVID calls for placing students in the most rigorous classes who otherwise might end up in lower track classes, and providing them with comprehensive support. This support—which program documenter Hugh Mehan refers to as "social scaffolding"—includes special instruction in study skills, the formation of study groups, and other tutoring and motivational opportunities.

Refocusing counseling work often requires adopting new schoolwide programs.

At each AVID school, a lead teacher oversees a specially trained team of teachers from every discipline, as well as counselors who deliver support. These counselors play a pivotal role: They schedule students for college-preparatory courses, facilitate students' preparations for college-entrance examinations, arrange field trips to colleges, and assist in the process of applying for financial aid.

The program has delivered impressive results: From 1986 to 1990, the dropout rate in AVID schools dropped by 37 percent, and 98 percent of graduates had enrolled in college. What's more, according to Mehan's research team, 89 percent of AVID students who enroll in college are still in college two years later.

Given the high student-counselor ratios in most schools, refocusing counseling work toward expanding opportunities for all students often requires adopting new schoolwide programs. For example, at Crete-Monee Middle School in Crete, IL, students are expected to draw up a "life plan," with the help of teachers and counselors, that outlines their future career aspirations and the steps they must take to get there. "We ask them to consider what they are going to have to do in high school and beyond to get where they want to be," principal Joe Crawford says. "Kids start thinking concretely about their educational careers in an entirely new way."

Schools that are detracking respond by making those plans possible. For example, Crete-Monee's commitment to doing things differently extends to ensuring that all students have access to high-quality curriculum and instruction. Several years ago, the school dropped remedial math courses and began requiring all students to take algebra instead. This change bore significant fruit, and the district's high school has been able to eliminate its remedial math courses. "We used to send them 60 students every year who couldn't pass the entrance exam for high school math," Crawford says. "Now everybody passes."

SUCCESSFUL DETRACKING

Navigating the Political Waters

Schools don't exist in a vacuum: external forces, especially parents, can have tremendous influence over the pace and progress of detracking efforts

BY LEON LYNN AND ANNE WHEELOCK

Educators who seek to detrack schools must pay careful attention to the new curriculum and content they hope to implement, as well as to the culture and norms that govern the day-to-day activities in schools and classrooms. But they cannot afford to ignore another critical component of detracking: the political atmosphere surrounding their particular school or district. Parents in particular can have tremendous influence over what takes place within a school—as well as what does not take place.

One major factor is whether parents have faith in the soundness of the school's educational program and its plans for detracking. Crete Monee Middle School in Crete, IL, for example, has been successful in getting students to meet higher math standards. The school's standardized test scores have risen steadily during the past three years: In 8th-grade math, for example, the school's average score on the Illinois Goals Assessment Program test, which has a 400-point scale, climbed from 241 three years ago to 296. This success has helped build and maintain support for its reform and detracking efforts. "If you can't show that you're improving" by pursuing detracking and other reforms, principal Joe Crawford says, "then you're dead."

> ***"If you can't show that you're improving, then you're dead."***

Some educators use a careful analysis of test scores to stimulate parents' interest in detracking. This analysis often reveals that although the "high" track is supposed to enroll only the "top" students, in fact, it is generally more "mixed" than is apparent, often because savvy parents take steps to see that their children are enrolled in these classes. "Some parents push their kids into the higher level courses because they think the curriculum or teaching is better," says John D'Auria, principal of the Wellesley Middle School in Wellesley, MA. In fact, just the existence of different "levels" poses a constant challenge to balancing competing political and educational concerns. As D'Auria explains, "Once parents sense a distinction in curriculum, many will advocate for the upper level. But then other parents complain that the top level is being watered down by students who are placed there on overrides, and they push to set up a new 'upper' level. It is a vicious cycle that is hard to beat."

Privileged parents often use their influence to undermine detracking efforts, especially in racially and socioeconomically diverse schools. Studying 10 such schools for three years, UCLA researchers Amy Stuart Wells and Irene Serna found that advantaged parents often saw their children as more "deserving" than others for top-track placement because of what their families contributed to the schools in taxes or other resources. They used four distinct but sometimes overlapping strategies to protect their children's placement in the high track. Some parents simply threatened flight, especially in schools where advanced programs were initially created to "hold" white or wealthy parents who might otherwise have moved with the advent of desegregation. Some went over the heads of principals or administrators who were pushing reform, appealing to those with greater authority to maintain the status quo. Some parents persuaded the "not-quite elite" parents not to challenge tracking arrangements by allowing them "power" in less influential domains, such as school-site councils where decisions about teaching and curriculum were rarely addressed. And others solicited detracking "bribes," bartering their support for detracking in exchange for the "best" resources assigned to detracked classes. In the schools these researchers analyzed, such resistance limited the scope and depth of detracking reforms.

HEL on the Web

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Freedom of Choice?

In response to the resistance of some parents and educators to detracking reforms, some schools turn to policies that allow students and their parents "freedom of choice" among classes of different levels. As a gesture toward detracking, such a policy appears to be both politically "cost-free" and easy to implement. But such a solution offers only the illusion of reform.

In their 1992-1995 study of 10 racially and socially mixed schools around the country, UCLA's Susan Yonazawa and colleagues learned that students who had benefited in the past from placement in the high track continued to benefit under "free choice" initiatives, with little added benefit for others. Further, they found that real "choices" often were constricted by a variety of factors, including schools' day-to-day practices and students' responses to earlier sorting experiences. For example, where schools allowed waivers from required enrollment in physical education and vocational courses, advantaged students sought and received these waivers, freeing them up to take more academic courses. Students placed in the lower tracked groups, however, continued to take all required courses in these domains. Yonazawa and colleagues also found what they termed "hidden" prerequisites and screening processes for particular high-level courses, which further limited access.

What's more, students' prior placement in low-level courses—and their perceptions that those placements accurately reflected their learning abilities—undermined their confidence that they could succeed in a more challenging course, even when school staff encouraged them to enroll at higher levels. Some minority students who previously were enrolled in low-track classes also resisted choosing higher level courses because doing so would mean abandoning their peer group, or because they believed that their contributions in the more challenging classes would not be respected. Instead, they sought classes they thought would be more compatible with their lived experience.

> ***Groups are not as accurately or fairly constructed as they have been billed to be.***

Yonazawa and colleagues also found that underrepresented minority students in high-track classes were left out of study groups and informal support networks that advance successful learning. Moreover, these students often felt that every question asked or mistake revealed was cause for judgment of their entire race or ethnic group. As a result, many opted out of high-track classes. For them, the benefits of choosing higher level courses were outweighed by perceived costs to their self-respect.

Taking Tracking to Court

In contrast to communities in which elite parents work to slow down detracking efforts, parents in other communities, whose children have been educationally disenfranchised by homogeneous grouping, are pushing educators to move more quickly toward alternatives to tracking. These efforts are increasingly being made through litigation. In the past five years, minority parents in districts as far-flung as San Jose, CA, Rockford, IL, Amherst, MA, and Birmingham, AL, have appealed to the courts for redress from what they consider to be discriminatory grouping practices. In such cases, plaintiffs argue that the district employs tracking, that tracking results in racial imbalances between classes with whites placed disproportionately in higher tracks, and that students placed in lower tracks are not prepared for college.

Court orders helped empower advocates for change by moving them from the margins to the center.

One of the central questions in these cases has been whether grouping practices accurately reflect student ability, even as measured by limited tests. Triggered by court attention, researchers examining grouping have confirmed the observations of concerned educators: Groups are not as accurately or fairly constructed as they have been billed to be. For example, analyzing the distribution of test scores in relation to group placement in San Jose, researcher Jeannie Oakes found a wide and overlapping range of student abilities in high, standard, and low tracks as measured by standardized test scores in every one of San Jose's secondary grades, 6 through 11. Some 7th-graders with Normal Curve Equivalents (NCE) test scores of 80 were placed in the low track, while others with NCE scores of 1 were placed in the high track, and scores of students in the middle track ranged from 1 to 99.

Most importantly, these overlapping categories put Latino students in San Jose at particular disadvantage. Seventh-grade Latino students with high test scores were about 50 percent less likely than white students to gain entry to accelerated classes, for example. In 10th grade, whites were more than twice as likely—and Asians four times as likely—to be enrolled in college-preparatory math than Latinos with similar test scores.

Analyzing several recent court cases, UCLA researcher Kevin Welner, along with Oakes, concluded that court-ordered tracking reforms could help overcome political and organizational barriers to detracking. They found that court orders helped empower advocates for change by moving them from the margins to the center of reform discussions in their schools and districts. Courts can also require districts to provide professional development and curriculum-reform assistance in all schools, further boosting the efforts of school-based change agents. Further, courts can push districts toward supporting a school-based inquiry process, which engages teachers in discussions about the belief system that perpetuates tracking practices and about how to build a school culture based on equity.

Building Consensus

Given the pressure from elite parents on the one hand and the potential for court intervention on the other, some educators are finding ways to build consensus for detracking reforms. One important element is demonstrating to skeptics' satisfaction that all children can receive high-quality teaching and learning—the type usually associated with "high" tracks—in heterogeneous classrooms. Sometimes this requires phasing in changes, beginning with teachers from a single grade or department, who then invite others to observe the results. For example, at San Diego's Muirlands Middle School, 6th-grade teachers piloted heterogeneous classes, which included students with disabilities as well as those from diverse socioeconomic groups. Student progress was measured carefully through portfolio assessments, so that the 6th-grade teachers had concrete examples of student growth to show the 7th-grade teachers.

Seeing successful approaches helps persuade skeptical parents as well. Some educators report that the parents of top-track children sometimes drop their objections to mixed-ability grouping when they see their children working on such "high-content" curriculum as the Junior Great Books Program, Project Zero's Immigration 1850 curriculum, or the National Council of Teachers of Mathematics' standards-based Interactive Mathematics Program, all of which feature active learning and Socratic conversation for understanding major concepts in literature, history, and mathematics. Other schools find additional ways to answer parent concerns while proceeding with detracking and other reforms. For example, teachers at Montclair High School in New Jersey offered evening sessions for parents that replicated the kinds of learning that were going on in the school's heterogeneous classrooms. Crete-Monee Middle School routinely invited parents to participate in professional development activities.

Some schools build consensus through creative compromise. For example, Thunder Ridge Middle School in Aurora, CO, uses the Math in the Mind's Eye curriculum—which was designed to be aligned with the standards established by the NCTM—with virtually all students. But the school also offers algebra on a limited basis. About 20 percent of the students opt for the more traditional algebra instruction, which is offered as an enrichment class in addition to the three-year Math in the

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Mind's Eye program, not instead of it. As Rick Blotter, the school's math curriculum facilitator, explains, "There are parents who want to see that textbook come home, they want to see homework they recognize....Yes, I guess you could say we're throwing the parents a bone [by offering algebra], but it's a bone with some meat on it." He adds that Math in the Mind's Eye "gives students a deeper understanding of math concepts," while traditional algebra gives them "a connection to the language of testing."

Other schools experience a process of confrontation followed by negotiation. For example, Tom Yarabinetz, an administrator with of the Greensburg-Salem School District near Pittsburgh, recalled his encounters with parents who objected to his district's promotion of heterogenous grouping. Pennsylvania requires school districts to develop an Individual Education Plan, or IEP, for each child designated as "gifted." Some parents whose children were designated as gifted decided to use the IEP process to push for ability grouping for their children. To Yarabinetz's delight, several other parents of high-scoring children came forward to say they supported the district's heterogenous grouping strategy, and that they thought ability grouping would be unfair to their children. Eventually, the district managed to convince the other parents that ability grouping was not necessary to provide their children with rich educational experiences. "We agreed we needed to meet the needs of these kids, but not like that," Yarabinetz says.

Navigating the political waters requires a realistic understanding of the reasons why some oppose change.

Navigating the political waters requires a realistic understanding of the reasons why some oppose change. Sue Galletti, who as a principal encountered stiff parental opposition to detracking her middle school in Washington state, believes that parents of high-achieving students often oppose detracking because "they're responding to what they believe they know is true in the educational environment, and they want to get the best experience for their own children."

At the same time, not all communities allow the latitude for change, especially when such changes upset status that comes from race or social class. In some communities, beliefs about the fixed nature of human intelligence and the desirability of ranking students according to measurements of such intelligence will remain entrenched. In others, where parents seek not simply an excellent education for their children, but also a segregated one, even when presented with high-quality alternatives, detracking will remain a daunting challenge.

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Making Schoolwork More Like Real Work

Exemplary School-to-Work Programs Show Promise for More Purposeful and Engaged Learning

BY ADRIA STEINBERG

> "During freshman and sophomore year, I didn't pay attention in class because I really did not care. I care now because this is something I really want to do. When you are interested in the work that you are doing, you will go the extra step . . . you will not be bored as you would if you were in a classroom listening to the teacher. . . . The program is not just about being released from school, but more about learning because you want to learn."

Rohit Rana shared these views in an article he wrote during his junior year at Cambridge (MA) Rindge and Latin School, several months into an internship in facilities management, that was cosponsored by Rindge and Harvard University. His words appeared in a newsletter that he and fellow interns put together as part of the language arts component of their integrated program of school and workplace learning.

Only a small percentage of students have the opportunity to participate in such programs while in high school. Asked to comment on their experiences, many—like Rohit—use it as an opportunity to critique "regular" school. Although this in itself is not surprising, what is striking is the frequency with which students report that at work they have better learning experiences and feel better about their relationships with adults than they do at school.

On one level, this makes little sense. Schools are organized to be settings where knowledge passes from one generation to the next, and where young people receive guidance from adults in developing their minds and characters.

INSIDE

Questions to Ask When Designing Projects

A Change in Basics

Linking the School-to-Work and Standards Movements

A Small School With a Big Idea

From the Guest Editor . . .

In 1994, the term "school-to-work" entered the national vocabulary with the passage of the School to Work Opportunities Act. Although funded at a relatively modest level, and deliberately designed to "sunset" in a few years, the legislation has sparked interest in new combined forms of learning and work, and in a more explicit integration of academic and vocational learning. This development has not been without opposition from some educators and parents who view school-to-work as a diversion from the important role of high school in preparing young people for college and for citizenship.

This issue of the *Harvard Education Letter* reframes the debate by asking a different set of questions: How can schools become more effective in helping all students meet the standards being adopted by states and school districts? What are the effects on high school graduates of structural changes in the economy? Why are some school-to-work programs achieving positive results? How can schools be organized to incorporate community and workplace experiences? As a former editor of the *Harvard Education Letter*, I am pleased to return to the task with this special issue.

Adria Steinberg

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In contrast, the emphasis at the workplace is on being a productive employee who pays attention to the "bottom line." Why, then, would some students feel they learn more from real work than from schoolwork?

Going Through the Motions

One does not have to look far for evidence that many students are disengaged from their studies. Astute observers, like Theodore Sizer, have been calling public attention to this problem for well over a decade, with telling portraits of schools where the norm is to "get by" with as little effort as possible. In a 1994 national survey of more than 20,000 high school students, nearly 40 percent admitted that they were "just going through the motions" in school. This response was equally true of those "surrounded by suburban affluence or urban poverty," according to the lead researcher Laurence Steinberg.

> ***Forty percent admitted that they were "just going through the motions" in school.***

Research into what actually occurs in a typical classroom or school day helps to explain why students are so quick to call school boring. One method researchers use to collect such data is to select a random sample of students and give them digital watches, programmed to beep at eight random times each day for a week. Students are to respond to the signal immediately by filling out a detailed self-report form. Using this "Experience Sampling Method," Barbara Schneider, Mihaly Csikszentmihalyi, and Suanti Knauth collected data on 376 high school students as part of a comprehensive longitudinal study, known as the Sloan Study of Youth and Social Development.

Concluding that schooling is primarily a passive activity, the research team reports that students spend less than 5 percent of the time in their academic classes in discussions, although students reported spending more than twice as many minutes chatting with classmates. Very few moments are spent talking to a teacher. The largest blocks of time are spent listening to lectures or waiting to do something (roughly one-fourth of their time) and doing independent work, such as individual "seatwork" and taking tests or quizzes (roughly one-third of the time).

Students are asked to state not only what they are doing, but whether the activity is challenging and whether they feel motivated by it (the latter is gauged by students' indicating whether the activity is interesting to them, they wish to be doing the present activity and enjoy what they are doing). Unfortunately, the courses that challenged students the most were also largely ones in which their motivation was low and their anxiety high. On the whole, the researchers find that students feel more challenged in academic than in nonacademic courses, but they also feel less motivated. Interestingly, students who reported feeling both challenged and engaged were more likely in follow-up interviews to see some connection between school-related activities and their future.

However, as other parts of the Sloan study reveal, for most high school students the future is a blur. They respond to queries about their career plans by naming a variety of high-status and high-paying jobs. "Maybe I'll be an athlete, maybe I'll be a neuro-surgeon, maybe I'll be a model," is how Charles Bidwell, a principal investigator for the study, characterizes student responses in *Education Week*. Teenagers seem to have little knowledge about the careers that interest them. The only students who could offer real information about career fields were the small number taking part in work internships.

Few Opportunities to Practice

Despite the amount of time students spend doing seatwork, they do not get as much opportunity as one might think to practice their skills. In a study of job literacy and school preparation, Larry Mikulecky of Indiana University arrives at the surprising finding that students in high school spend fewer minutes reading and read much less varied materials than do adults in a range of jobs from blue collar to professional.

> ***Working alongside adults helps students internalize a set of real world standards.***

Not surprisingly for student participants in the study, 95 percent of their reading came from textbooks. In contrast, in the course of completing a task, middle-level workers were observed moving from one format to another: their reading included texts, manuals, flyers, product directions and labels, forms and computer screen printouts. Based on interviews, tests, and an analysis of the reading level of job-related materials, Mikulecky concludes that high school students face easier material that they read to less depth, and that they employ fewer and less effective reading strategies than do adults on the job.

Using Their Minds?

While students might find a degree of challenge in their academic courses, these experiences are not necessarily synonymous with intellectual rigor. How can we bring the intellectual qualities involved in complex adult accomplishments into our schools? This question is the starting point for a study conducted by Fred Newmann and Gary Wehlage of the Center on Organization and Restructuring of the University of Wisconsin.

The researchers note that a bridge designer draws on established knowledge in a variety of fields (e.g., engineering, architecture, mathematics, and natural sciences), produces new ideas of design and construction in order to address the problems and conditions of a particular setting, and uses this knowledge to make something of utilitarian and aesthetic value. Drawing from this example, they propose that classroom instruction and assessment be held to the same criteria—students

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THE FIVE A'S:
Questions to Ask When Designing Projects

AUTHENTICITY

1. Does the project emanate from a problem or question that has meaning to the student?
2. Does it provide opportunities to create or produce something that has personal and/or social value?
3. Is there a real audience (set of recipients) for this work?

ADULT RELATIONSHIPS

1. Do students meet and observe adults with relevant expertise and experience?
2. Do students work closely with and get to know at least one adult?
3. Do the adults collaborate with one another and students on the design and assessment of project work?

ACADEMIC RIGOR

1. Does the project lead students to acquire and apply knowledge related to one or more discipline or content area?
2. Does it help students develop skills in problem-solving and other forms of higher order thinking?
3. Does it help students develop the habits of mind and work habits required to complete complex tasks?

ACTIVE LEARNING

1. Do students spend significant amounts of time doing field-based work on the project?
2. Does it require students to engage in real investigation, using a variety of methods, media, and sources in their exploration?
3. Do students complete at least one product with usefulness outside of a school setting?

ASSESSMENT

1. Do students help to set the criteria for the project?
2. Do students reflect on their learning and engage in periodic self-assessment?
3. Are adults from outside the classroom involved in the assessment of the work?

For Further Information

A. Steinberg. *Real Learning, Real Work*. New York: Routledge, available Fall 1997.

should construct knowledge through disciplined inquiry in order to produce discourse, products, and performances that have meaning beyond success in school.

Based on these criteria, Newmann and Wehlage have developed a set of standards they use to gauge the intellectual quality and authenticity of classroom pedagogy and of the work students do. Analyzing the mathematics or social studies work of 2,100 students from classes with high, medium and low levels of authentic pedagogy, the researchers find that in classrooms where the pedagogy scored high, students also scored significantly higher on a performance scale designed to measure the intellectual quality of their work, as well as on more conventional measures of achievement.

Achieving Authenticity

In its emphasis on "connecting activities" that link school and work, the 1994 federal School to Work Opportunities Act holds out a vision of purposeful and engaged learning, in which students' exploration of various work identities offers contexts for making sense of academics. Not surprisingly, this is an appealing vision, particularly to educators in urban districts. At the same time, some parents and educators are suspicious that school-to-work will prematurely narrow students' options. Some also fear that control of schools is being ceded to corporations that will benefit from schools' picking up the tab for training a new supply of cheap labor.

In many debates about school change, it is critically important to go beyond labels to the actual features of the reform. At this point, the term "school-to-work" is used to describe everything from shop classes or work placements that offer narrow skill training to integrative, college preparatory programs that connect academic studies to career interests and internships. Some communities have adopted the term "school-to-career" to indicate a commitment to academic integration, but the terms continue to be used interchangeably.

For the purposes of this discussion, the focus is narrowed to a relatively small group of programs that have been studied as pioneering or exemplary efforts. These include career academies in California, New York City career magnets, and a variety of work-based learning programs selected for study by nonprofit research and technical assistance organizations, such as Jobs for the Future (JFF) and the Manpower Demonstration Research Corporation (MDRC).

In characterizing the programs included in its research, MDRC offers a caveat that applies more generally to the programs that have been most documented and studied. These are "ambitious efforts"— older than many of the current school-to-work initiatives, with deep local roots, high staff and community commitment, and program features that may be "relatively uncommon." Although these efforts vary in the exact configuration of school-based and work-based activities, they share a commitment to developing strong connections between the two—even when this implies a need for organizational and pedagogical changes.

Key Features

Some of the strongest research findings come from studies of small, focused learning communities—career academies (schools-within-a-school with a career theme) and career magnets (whole schools with career themes). The promise of this type of school organization is also evident in a recent follow-up study of 16 programs first studied by MDRC in 1992-93. Programs that began with a career academy or school-within-a-school structure have maintained this way of organizing instruction, while others have moved to adopt this type of approach.

This same study indicates a growing emphasis among the programs on occupational and interdisciplinary themes and project-based learning techniques—including bringing industry examples and employers into the classroom. In its ongoing studies of exemplary programs, JFF also calls attention to the use of projects to make the work more authentic at school and more "learning rich" on the job. In such projects, teaching and learning are not separate activities in themselves, but are embedded in solving problems and accomplishing tasks that create a strong need to know and to find out. (see "The Five A's," page 3).

Another feature that is particularly noted by students in promising programs is the opportunity to form connections with adults—through job shadowing, internships, academic study in workplaces, and career-related projects in which experts act as coaches or audience. In interviews, students repeatedly bring up their surprise and excitement at how caring and helpful adults have been. In a JFF survey of over 100 students in pioneering initiatives, 75 percent said they formed special relationships with adults in the program.

Positive Results

Although relatively few in number, the promising programs that have been studied call attention to the potential of school-to-work. Well-constructed pro-

Projects at Work

A Field Study at East Boston High School: The Teen Health Clinic of the Future

East Boston High School is six years into a process of creating career pathways organized around occupational themes. Located within a mile of Boston's Logan International Airport, the high school began with a travel and tourism cluster in collaboration with Massport, the corporation that runs the airport. Two years later, the East Boston Neighborhood Health Center introduced the HoPE Alliance (Health Partnerships in Education) to the high school, leading to a new health professions pathway. In both of these programs, students in 10th through 12th grade spend approximately half the school day taking academic and technical courses with a team of teachers who have agreed to relate their subject matters to occupational themes.

The health center places job-ready HoPE Alliance juniors and seniors in paid health apprenticeships. To ensure an integration of academic and on-the-job learning, three representatives from the center come weekly to meetings of the teaching team. In order to secure this meeting time within a busy school day, the team members teach the first five periods in a row.

This year, the HoPE Alliance is trying something new. All of the seniors are participating in a field-study experience in which they act as consultants to the health center. In a team meeting in early November, the group settled on a key question that teachers felt would matter to the students and that the health partners identified as a real question for the center: What could be done to improve the health of teenagers in East Boston?

A pediatrician from the health center met with all of the seniors to make clear that this is an issue of actual concern to his organization and that the administration will be very interested in students' results. Students then divided into teams to develop "consultant work plans" and to begin the design of two aspects of the field study: a survey of teenagers and research into different models of health-care delivery.

Teachers view this project as a way of meeting the academic requirements of their courses, rather than an "add on." For example, as part of the field study students will fulfill the English Department requirement of a research paper. In carrying out the various research and writing tasks involved in the field study, students make use of time and support in their English, Anatomy and Physiology, and Health Professions classes, as well as during work hours in the center.

To ensure a high level of quality in what the teams do, CityBuild, a local nonprofit agency, is acting as an intermediary, connecting students with professionals in the community who can share their expertise (e.g., in tabulating survey results, writing proposals, preparing audio-visual presentations) and help students make the work as professional as possible. Based on their research, students will write proposals for models of prevention and health care delivery that they will present to the health center board.

For Further Information

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Senior Project: Design Electrical Services for a Laboratory

For his senior project at Anitec and Binghamton High School in New York, Blair Dury's coach, Robert Kage, gave him an architectural layout for a new silver analysis laboratory and challenged him to produce a functional design package for its electrical services. Blair gathered information about power requirements for the test equipment, for the chemical exhaust fans, and for general room power and lighting by reading equipment specifications and nameplate data and interviewing lab technicians and engineers. Design steps included applying the information to size electrical circuits according to the National Electrical Code; specifiying the required conduit, wire, circuit breakers, disconnect switches, etc.; and calculating the lighting levels. He reviewed all work with the facilities project engineer at each stage.

The design package he presented at his exhibition included architectural auto-cad plan-view drawings with associated elevation views, schematics, and single-line diagrams, a bill of materials, and standard construction notes and a scope of work. Panel members who evaluated the exhibition commended the depth of his knowledge about electrical power requirements, the numerous skills acquired in executing the project, the connections to academic knowledge and skills, and the range of resources used.

For Further Information

Excerpted from *Learning Well at Work: Choices for Quality*, by Mary Agnes Hamilton and Steve Hamilton. Washington, DC: School to Work Opportunities, U.S. Department of Education and U.S. Department of Labor, 1997. (Available from National School to Work Learning Center, 400 Virginia Ave. SW, Rm. 150, Washington DC 20024, 1997. 800-251-7236; fax 202-401-6211, stw-lc@ed.gov) grams have contributed substantially to improved student outcomes in the following areas:

- *College-Going:* Students have developed ambitious career goals that, in most cases, involve higher education. In the JFF student survey, 90 percent reported plans to enroll in a two- or four-year college. Individual programs that have kept track of graduates report actual college-going rates between 77 and 84 percent—all the more significant when one considers that a majority of their students did not start out "college-bound."
- *Academic Focus:* One reason for the high college-going rate is that more students are taking prerequisite courses. The MDRC follow-up study reports that many sites have developed strategies to prepare students for college, including several that have students take post-secondary courses while in high school. In more than half of the programs included in the JFF study of 10 promising programs, students were taking more science and mathematics than their peers who were not in the program.
- *Finding a Future:* Students see themselves as gaining a better sense of career paths and the steps along them. In the JFF student survey, 82 percent said that the workplace experience provided useful career exploration and 46 percent identified career exploration/job exposure as the aspect they most liked about the program.

Projects call upon students to practice their literacy skills.

- *Reading and Math:* In New York City, eighth-graders have the opportunity to enter a lottery for a slot in a career magnet program. Comparing scores on the New York State Regents exam of students who "won" the lottery with students who lost and hence had a different educational program, researchers find several positive effects of attending a magnet school. Students with low reading scores prior to grade nine were more likely to pass the New York State Regents exam in math if they attended a career magnet school. And, students with average initial reading scores increased their reading scores as much as 50 percent faster in career magnet schools than in regular schools.
- *Drop-Out Prevention:* In studies of career academies in California, David Stern finds a higher graduation rate for academy students than for a matched group of students at each school. In some sites, most notably the Oakland Health and Biosciences Academy at Oakland Technical High School, research also revealed that students had better attendance, more credits, higher grade point averages, and fewer classes failed. "It is possible to achieve the goals of dropout prevention and college preparation at the same time, in the same program," concludes Stern.

What Matters Most?

A central problem with much of the research on school-to-work is that it is too broad-gauged to indicate exactly what it is about the programs studied that makes the most difference. As with any educational reform, the absence of such information can feed a tendency to appropriate the label without necessarily adopting best practice. One way to maintain a sense of quality is to return to the research on teaching and learning cited at the beginning of this article. This research provides a useful lens for focusing on why some programs seem to be achieving positive results.

The projects and performances of students in promising school-to-work programs (see "Projects at Work," page 4) come strikingly close to meeting the standards for intellectually rigorous work outlined by Newmann and Wehlage. Perhaps the process of working alongside adults at a workplace, or being coached by experts who come into the school, helps students to develop a sense of what is involved in accomplished performance and to internalize a set of real-world standards.

Furthermore, such projects call upon students to *practice* their literacy skills, in much the way workers did in Mikulecky's study. In fact, depending on the nature of the projects, students might not only read a variety of texts, but also write in a number of genres (e.g., proposals, reports, memos), engage in mathematical reasoning and modeling (e.g., graphing, inventory control, spreadsheets), and make use of their "soft skills" such as dealing with a semistructured problem, managing their own contributions to a team, and communicating well with others (see "A Change in the Basics," page 6).

Certainly the active nature of work-based learning or work-like projects in schools differs markedly from the passivity documented in the Sloan study. That study also reports a negative relationship between intellectual challenge and motivation. In contrast, the career focus of exemplary school-to-work programs appears to motivate students to become more focused academically. A majority of students surveyed in 1994 indicated that their courses were more interesting than those taken by students not in the program and reported feeling more positive about school as a result of the program.

School-to-work programs appear to motivate students to undertake greater challenges.

A Growing Constituency

Rather than serving as a "dumping ground" for the most at-risk students (a function often played by vocational education), promising school-to-work programs appear to be attracting a growing number of students from the top half of the class. In order to continue serving low achievers, some programs have had to be vigilant in their recruitment efforts—an interesting phenomenon for programs that started out targeting at-risk students.

Such results have helped to bolster support for school-to-work initiatives, as have testimonials from students. Growing interest can be seen in the proliferation of new, small schools centered on internships and work projects (see "A Small School With a Big Idea," page 9). and in the endorsement by administrators of clusters or pathways organized around career themes. It also helps explain why large school districts like Milwaukee and Boston have committed to a set of benchmarks that measure the effectiveness of school-to-work initiatives, and why suburban systems in Larkspur, CA, and Mamaroneck, NY, invest in professional development to help teachers create field study projects and senior career internships for their students.

In traditional classrooms, students are given structured assignments, in which the correct way to proceed and the right answer have already been determined. They are expected to do most of their work alone and to be tested on what they can remember. These learning conditions are quite different from the world outside of school, where problems are often complex and ambiguous, and what matters is one's ability to work with others, find relevant information, and improvise and evaluate multiple solutions. Cognitive scientists point out that it is time to reconsider the dominant methods and strategies of teaching and learning in light of this gap. Perhaps it is the willingness of school-to-work programs to take on this challenge that is what is most compelling to students and teachers alike.

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A former editor of the *Harvard Education Letter*, Adria Steinberg is currently a program director at Jobs for the Future in Boston, MA. She recently completed a book, *Real Learning, Real Work*, featuring high schools that bring work and community experiences into the center of instructional practice. *Real Learning, Real Work* will be available from Routledge in Fall 1997.

A Change in the "Basics": Today's Graduates Need More Than the 3 R's

BY ADRIA STEINBERG

The most common response to the litany of what's wrong with high school education today is to proclaim the need to go "back to basics"—a sensible reaction to the argument that schools are getting worse. If the past was better, let's go back to it. Unfortunately, both the analysis of the problem and the proposed solution are misleading. In their recent book, ***Teaching the New Basic Skills***, Richard Murnane and Frank Levy explain how it can be true at the very same time that: 1) schools are doing a better job than they used to; and 2) there are serious problems in our schools that demand immediate fixing.

The problem as Murnane and Levy describe it is that "during the past twenty years, the skills required to succeed in the economy have changed radically, but the skills taught in most schools have changed very little." As a result, a high school diploma is no longer a "ticket to the middle class." To illustrate this point, Murnane and Levy present case studies of five companies, in industries such as automobile manufacturing and insurance, that have long offered relatively high-wage careers to young people with a high school diploma.

The case studies reveal a remarkable consistency in the skills that are sought out and rewarded in the hiring, training, and promotion practices and policies of these five companies. The "new basic skills," as Murnane and Levy call them, include:

- the ability to read at the ninth-grade level or higher
- the ability to do math at the ninth-grade level or higher
- the ability to solve semistructured problems, where hypotheses are formed and tested
- the ability to work in groups with people of various backgrounds
- the ability to communicate effectively, both orally and in writing
- the ability to use personal computers to carry out simple tasks like word processing

Significantly, this list does not just emphasize the "hard" skills that are usually at the core of the "back-to-basics" agenda. Despite the fact that reading and math skills are easier (and considerably cheaper) to measure, all five firms search for evidence of a broader set of abilities. Skills such as problem-solving and working in groups (labeled "soft" because they cannot be measured by multiple-choice tests) are becoming increasingly important.

The point is not that all workers are expected (or even given the opportunity) to demonstrate the "new basics," but rather that such abilities affect an individual's chances of earning a *decent* living. Workers who lack these skills are likely to earn much less over their working lives than those who do have these skills, according to Murnane and Levy. To find workers who have the right set of skills, some companies have switched to hiring only college graduates, not because the jobs require knowledge learned in college, but because companies feel they cannot be confident that a high school diploma indicates that students have the requisite abilities.

Half Don't Have It

Nearly half of American high school students graduate without the level of reading and math skills required by the five companies studied. Murnane and Levy arrive at this conclusion by comparing the tests several of the companies give as part of their hiring process to the National Assessment of Educational Progress tests in reading and mathematics. An applicant for a good entry-level job in those firms (for example, a production associate) would have to score roughly 300 points or more on both of the NAEP tests to meet the company cutoff. (Once applicants meet the cutoff, their exact score is not considered.) They find that only 3 of 5 students scored at this level on the 1992 NAEP math test, and only 2 of 5 met this standard on the reading test.

Murnane and Levy provide evidence that a young person's mastery of these skills matters in the labor market, although not necesssarily in the first job new graduates get. Looking only at individuals whose formal education ended with a high school diploma, the researchers find a relationship between wages six years after graduation and the scores these same people got as high school seniors on a standardized mathematics test.

In one analysis, they compare those finishing high school in 1972 to those finishing in 1980. Six years after high school, for both groups, the higher the old math test score, the higher the earnings reported. Most significantly, the test scores made *more* of a difference in the 1980s than they did in the 1970s. Graduates of the class of 1972 having strong math scores earned 53 cents per hour more than those with low scores, while for the class of 1980 the difference was $1.33 per hour. The researchers find similar patterns when students' scores on a test of reading comprehension are used.

The Fit with College

One reason for the strong "go to college" message of the 1990s is the increasing gap between the earnings of high school and college graduates. Based on their research, Murnane and Levy suggest that it might be possible to reduce this earnings gap if high schools could figure out how to help students learn the new basic skills in twelve years, rather than the fourteen or more it now takes. This is not an argument against students going to college, but rather an argument against the waste of valuable years (and dollars) on learning skills that could and should be developed sooner.

Although this research draws attention to the economic function of schools, the new basics skills outlined by Murnane and Levy are also critical to community participation and necessary for success in college. In 1995, the Higher Education Advisory Group of the National Educational Goals Panel reported their belief that the same "core intellectual skills are required by both the worlds of work and school." The case studies in *Teaching the New Basic Skills* provide concrete examples of what these intellectual skills look like on the shop floor and in the offices of some high performance corporations. The challenge for schools is to find new and more effective ways to teach these skills and, ultimately, to convince teachers, parents, and students how important it is for everyone to learn them.

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Clapping with One Hand

Why the School-to-Work and Standards Movements Should Be Linked

BY MARGARET VICKERS

Among the numerous education reform efforts of the 1990s, two appear to possess the vigor and momentum needed to bring about real change in our high schools: the school-to-work and the national standards movements. Both initiatives trace their origins to the same fundamental concern: a growing number of workplaces demand higher levels of performance than in the past, and Americans can no longer afford to act as if the only people who need a rigorous high school education are those competing to enter selective four-year colleges.

Despite similar definitions of the challenges confronting schools, these two movements pursue separate strategies, often working with different constituencies. The result is about as effective as clapping with one hand. Without a framework of high standards, school-to-work efforts become the latest version of the low track. Without the contextualized approaches offered by school-to-work programs, the standards movement reinforces an abstract and contrived curriculum that only works for a small group of students.

Standards and Systemic Reform

The standards movement is associated both with the work of the national subject-matter associations to develop new benchmarks and standards for the disciplines, and with the systemic reform plans almost all states have put in place over the last six years. One of the essential elements of these state plans is curriculum frameworks that establish what all students should know and be able to do in each core subject area. While many previous reform efforts failed because they focused on only one element, systemic reform is about making simultaneous changes in all elements. Its goal is to produce clear indications of what is expected, and then ask teachers to establish coherence among the standards that have been set, the curricula they use, and the nature of the tasks used to assess student performance.

Whether systemic reform can succeed where other reforms have failed remains to be seen. Certainly, high standards are popular with the American public. In the 1995 Gallup/Kappan poll, 87 percent of respondents favored requiring high standards in the core subjects for grade promotion, and 84 percent favored the same for high school graduation. But, as professional educators realize, the mere publication of these standards will not take us very far.

What teachers really need are strategies for helping all students—especially those who usually perform poorly—to achieve the higher-order cognitive skills advocated in the standards. Such "strategies" are neither simple nor easy to introduce: rather, they will demand profound changes in how teachers teach and how students learn. As Lauren Resnick wrote, "Although it is not new to include thinking, problem-solving and reasoning in *someone's* school curriculum, it is new to include it in *everyone's* curriculum. ... It is a new challenge to develop educational programs that assume that all individuals, not just an elite, can become competent thinkers."

For years, the very structure of the comprehensive high school has been based on the assumption that it is appropriate to expect different things of different students. This assumption has conditioned the practices of most high school teachers, especially those who teach "gateway" subjects such as mathematics and science. In a 1994 report to the National Science Foundation, Iris Weiss found that while 75 percent of teachers believe that "virtually all students can be taught to think scientifically or mathematically," most high school teachers think it is preferable to sort students by ability level. Seven out of 10 high school science and mathematics teachers surveyed said that students learn science and math best when grouped with students of similar abilities.

Although the intent of ability grouping may be to make the subject matter accessible, the effect seems to be to discourage students from further study. Fewer than one in four complete a four-year sequence in science or math. Weiss also found that teachers of so-called "low-ability classes" are more likely than those teaching "high-ability classes" to rely on textbooks and assign worksheet problems and are *less* likely to engage students in hands-on science activities or reasoning about mathematical problem-solving. Rather, the emphasis is on preparing students to take multiple-choice tests, and little time is spent on developing deeper understandings.

HEL on the Web

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The mere publication of standards will not take us very far.

The key question is, how do we change what happens in academic classes, especially in the classes where students spend much of their time filling out worksheets? While the standards movement is forcing the nation to focus on this problem, some of the most promising solutions are coming from schools that are using school-to-career strategies to create a new level of commitment to learning among students, parents, and teachers alike.

School-to-Career Strategies

Each year, tenth-grade life science students at Noble High School in rural Maine spend several weeks doing organism counts and chemical tests on the local rivers and reservoirs. The particular problem the class focuses on varies from year to year. Last year, students decided they wanted to work out why their favorite swimming hole on the Salmon Falls river clogs up with algae every spring. They collected samples from various points in the river, visited the sewage treatment plant, consulted with local water-testing professionals, and concluded the project by calling a town meeting at which they presented their conclusions and made recommendations for more stringent treatment of the sewage effluent that enters Salmon Falls above the swimming hole.

In programs such as this one, learning begins with experiences in the workplace or in the community. Direct connections with workplace practitioners provide motivation, meaning, and context for student activities. The teacher's role is to encourage students to reflect on their experiences, systematize their thinking, and use the frames of reference of the disciplines to make sense of their experience.

Although discipline-based scholars and teachers tend not to realize it, approaches such as this are compatible with the emphasis of national standards on developing problem-solving and other higher-order skills. As the number of states implementing systemic reform plans increases, it is likely that educational leaders will be looking for ways of convincing subject-matter teachers that they must make thinking, problem-solving, and reasoning part of everyone's curriculum. Here again the school-to-career movement offers some promising strategies.

Last summer thirty Massachusetts teachers spent two weeks shadowing employers in a range of high-performance workplaces. Asked what they had learned, most teachers said they had no idea how high the standards of performance at work-sites would be. As one English teacher said, "All my students are going to need communication skills beyond what I had ever imagined when they enter these workplaces. We can't let anyone off the hook any more—even ordinary jobs today are making enormous demands."

As this comment illustrates, when teachers gain experience in high-performance workplaces, their beliefs about what students should know and be able to do begin to change. Philosophically and strategically, the standards and school-to-career movements need each other. While the standards movement provides clear performance benchmarks, the school-to-career movement is showing that it can deliver the motive and purpose that is essential if these standards are to be achieved by all.

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A Conversation with Dennis Littky and Elliot Washor

A Small School with a Big Idea

In the summer of 1996, the Rhode Island legislature approved start-up funds for the Metropolitan Regional Career and Technical Center (MET), a new high school proposed by an unusual planning group, including the Commisssioner of Education, Peter McWalters, the Board of Regents, and several hundred citizens. The effort was spearheaded by Dennis Littky and Elliot Washor, who came from Thayer High School in New Hampshire, where their work attracted national attention, both because Thayer was an exemplary school within the Coalition of Essential Schools and because the school board tried to fire Littky, whose successful struggle was described in a book (Doc) *and a TV movie ("A Town Torn Apart"). Littky and Washor were interviewed by Adria Steinberg several months into the first school year of the MET.*

HEL: You had a nationally renowned high school in New Hampshire. Why start a brand new school in Rhode Island?

DL: As a principal for 19 years I'd been doing innovative things, and yet I felt that we hadn't gone far enough. People would laugh at that, because Thayer was pretty far out. But I realized the best examples of learning happened when the kids did real work or solved real problems, like when they registered people to vote, or developed new school rules, or apprenticed with someone in the community.

> ***The key is developing a culture where everyone feels responsible for kids.***

We're trying to pay attention to what we know about how people learn. What if we didn't think that everything had to be organized into math, English, science, social studies? Students learn by following their interests. I have this dream of working kid by kid and helping each of them find what they want to explore. That's what high school should be—usually you only get to do that in kindergarten or graduate school.

HEL: If you don't rely on classes, what are the learning structures?

DL: First thing in the morning, we all get together for something called the "pick-me-up." A student reads a poem, or Elliot and I try to get everyone thinking, like by reading an article on what executives think good schools are. Then kids go to advisory—advisors meet with their group of kids everyday. In the best case scenario, they are pulling out their calendar book and saying, "Oh, I have a job shadow today," "I'm going to the library at 10:00," or "I have a writing workshop at 12:30." The advisory helps them feel that although they're doing individual things, they are a part of a group.

Then, the kids either go to one of the workshops that's scheduled—like today there's a group that is meeting with people about designing exhibits for Museum Heritage Harbor, and another group that is learning CPR— or they're working on a project. The faculty are either running workshops or coaching kids one-on-one. At the end of the day, the advisory meets again.

EW: The MET is a little bit like the Oxford model, where you go in and say, "Where's the course?" And the professor says, "What do you want to do? Write a proposal and then we'll talk about your work." Our projects revolve around individual proposals, so there's a lot of writing going on. Students are constantly presenting orally to their peers and teachers. I've heard kids asking, "Where's the math in that project?" "Where's the community service?" They're learning to look at the work in relation to the skills, approaches to problem-solving, and personal qualities we've said the MET stands for.

Projects are presented to the public too. We have our first series of exhibitions coming up in a few weeks. Kids are working with mentors outside of the school, interviewing and job shadowing, and some have started what we call LTI's—learning through internships. Eventually they will all spend time in internships twice a week. When they're not with their mentors, they use the Internet to bring what's outside right into the school, and bring themselves out.

> ***People are only in school for 9 percent of their lives. Our job is to get them to learn the other 91 percent.***

HEL: Can you share examples of projects?

EW: For her first individual project, Priscilla decided to create a book for younger kids of poetry and writing by Latino students and authors. She felt like she was giving the younger students something that would help fill a void she could remember from her own past. She created an opportunity to be socially responsible, and that is one of the most powerful things anybody could do. It kept her focused on doing the work—the organizational, editing, writing, and publishing skills she needed to pick up, the contacts that she had to make to complete and compile a book.

At the same time she worked on a group project—something that needed to be done for the school. We're tenants here in the University of Rhode Island downtown campus. The project asked how the MET could become a member of this community. The kids wrote a let-

UPCOMING ARTICLES

New Consensus on Professional Development

The Effects of Class Size on Learning

Interview with Linda Darling-Hammond

ter introducing us to other people in the building, conducted surveys to find out how they felt about us being here, and then formulated and reported the data.

HEL: People must ask you this all the time: What are the kids learning?

DL: If you count up all the hours, people are only in school for 9 percent of their life. Our job is really to get them to learn the other 91 percent. The hardest thing in the real world is not to answer a question but to figure out what the question or problem is; how you're going to go about something. We have kids saying, "I've never been asked to think before."

Of course our students have got to learn skills. Already it's incredible, the number of oral presentations kids have given, the number of adults they've talked to, the number of pages they've written. Kids are already coming back and saying now I want to learn to write. Now I want to learn to speak. I think that's three quarters of the battle. They've got to want to do it.

After their first projects, kids talked about perseverance. They learned to keep going. I heard kids standing up and saying, "I tried this, it didn't work, so I tried that and it didn't work. But I finally got it!" That's solving a problem by trial and insight. Another thing we're trying to do is to get them to use different problem-solving approaches, and to look at things as a scientist or a historian would.

HEL: "Learning through real work" is one of the basic tenets of your school. What's that look like?

DL: You realize as you know each kid better, you've got to put them in places where they can learn and grow; we can't do it all at school. Where kids go is based on what they are interested in right now. Take the kid who wants to be in a bakery. That's what he cares about now, so I don't have any problem with him spending time there. He's not signing on for a long training program. I don't have to say, oh god, baker's not a good thing for you. I'm not worried about exposing kids to lots of options because that's what we're doing all the time—placing them in the community and introducing them to people and places.

A lot depends on finding mentors and on working with them to build projects around what they're doing. It's like doing home schooling for every kid. We figured out recently that there's 38,000 high school kids in Rhode Island and 500,000 people working there. The idea that you can't find mentors for kids is a bunch of bull. I think the key has got to be developing a culture where everyone feels responsible for kids.

Letters to the Editor

We invite readers to comment on the articles in this issue of the *Harvard Education Letter* and on other matters of importance to educators. Address letters to the Editor, *HEL*, 349 Gutman Library, 6 Appian Way, Cambridge, MA 02138. You may also fax letters to 617-496-3584 or send electronic mail via Internet to EdLetter@hugse1.harvard.edu.

> ***The hardest thing in the real world is not to answer a question but to figure out what the question or problem is.***

Once we find a place for a kid to be, then it's about developing projects. Mentoring isn't just putting a kid in a job and watching out for them. The projects are things that need to be done in that lab or at that bakery, but we also have to get very clever at working with the kid and the mentor to enrich that. To build from there. This is the really hard part for the teachers. If you try to fit everything into one project—you know, writing, reading, calculating—you can ruin it.

HEL: How will you determine the standards for kids' work?

EW: We think of it as real-world standards, school standards, and personal standards. The personal standard is when you start by thinking about where you are, and where you want to be next week and in six months. This is something that constantly changes. Each student has a learning plan, and we have quarterly written narratives and reviews of the plans, when the students, parents, advisor, and mentor go over the learning goals and revise them.

> ***Students, parents, advisor, and mentor go over the learning goals and revise them.***

A school standard comes into play when we have exhibitions of students work or presentations of what they're learning. One school standard might be that the written portion of the project has to be in a final, edited, word-processed form, or that students' work must show that they are being socially responsible. This is a performance-based assessment. And then there is a real-world piece that tells you what the work looks like when an expert does it. It gives you some perspective on where you are, where your skills are now, and how much further they could develop.

For Further Information

This interview is part of an ongoing research project in school-to-career initiatives conducted by Jobs for the Future in partnership with the Northeast and Islands Regional Educational Laboratory at Brown University.

Dennis Littky and Elliot Washor, The Metropolitan Center, The Shepard Building, Room 325, 80 Washington St., Providence RI 02903. 401-277-5046.

CORRECTION

In the November/December 1996 issue, HEL reported that Educational Testing Service staff were considering administering Advanced Placement tests twice per year in response to the popularity of block scheduling (see "Block Scheduling Questions and Answers," Vol. XII, No. 6, p. 4). ETS staff have studied and will continue to study this issue, but in a recent report they recommend that no action be taken to develop January examinations. Among the reasons they cite are relatively small demand; prohibitive cost; poorer AP scores among students who take AP courses concentrated in one semester; and concerns about maintaining service quality and validity.

The Harvard Education Letter

in collaboration with
The Pew Forum on Standards-Based Reform

A Supplement to *The Harvard Education Letter*, Volume XIII, Number 2, March/April 1997

SPECIAL REPORT

A NATIONAL RESPONSE TO *QUALITY COUNTS*

In January 1997, *Education Week* published *Quality Counts*, the first in a series of annual reports on the condition of public education in the United States.

The 238-page report, commissioned by the Pew Charitable Trusts, concluded that U.S. public schools are "riddled with excellence, but rife with mediocrity."

Quality Counts uses National Assessment of Educational Progress (NAEP) test scores to measure student achievement in each of the 50 states. It then grades each state's performance on the four indicators that most affect student achievement: teacher quality, academic standards, school climate, and school funding. The report also includes a 2,500-word analysis of each state's performance. Some states barely received passing grades, and even those that fared better have little to boast about, according to *Education Week* publisher Ronald A. Wolk. "These are not exactly report cards that students would rush home to show Mom," he said.

The report also offers a word of caution about three conditions most states are facing: deteriorating school buildings, taxpayers' reluctance to fund education, and a widening equity gap.

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Quality Counts has received extensive attention from policymakers, researchers, and the press, but there is a danger that it will never have an impact where it is most needed—in schools. In an effort to further the dialogue about the condition of public schools in America, the *Harvard Education Letter* and the Pew Forum on Standards-Based Reform asked a number of leaders in education, business, and government to offer their perspectives on the report's findings.

The Making of *Quality Counts*

The *Harvard Education Letter* asked Ronald A. Wolk and Robert B. Schwartz, a lecturer at Harvard's Graduate School of Education and former director of Pew's education program, to talk about why Pew commissioned the study.

HEL: ***What made you decide to publish this report?***

Schwartz: In virtually every public opinion poll, most people say they think *other* kids' schools are going to hell in a handbasket, but that their own kids' schools are just fine. The only way to sustain the education reform movement is to build a better understanding of the actual conditions of education.

For a foundation like Pew that is interested in supporting education reform, investing money in studies like *Quality Counts*, which show the public and policymakers just how far we have to go, can really contribute to that public understanding.

The idea for this report began during the planning process for the governors' education summit in 1995. The question came up about what ought to emerge from the meeting. One of the ideas was to have some kind of "annual report" on education, offering an assessment of state-by-state progress in school reform. We wanted something that was a mix of journalism and data. The organization selected to do the report would have to be nonpartisan but sympathetic to the broad goals of education reform—and still willing to exercise independent judgment. These criteria led us to *Education Week*.

Wolk: We had been thinking about doing this at *Education*

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Week for about six or seven years. But it never took off until the 1995 summit. That's when we approached Pew.

Schwartz: The most difficult issue was how to give this enough "bite" to really capture the public's attention. My view was that we needed to have some kind of ratings or rankings, but I didn't know exactly what. My recollection, Ron, was that this was something you had to work through before deciding if it made sense.

Wolk: We didn't think there was anything to be gained from ranking the states from 1 to 50 or giving states a composite grade, like "State X is a C minus." Our objective was to illuminate. By simply reducing everything to one grade or one ranking, we'd tend to obscure the real picture. The example I've used is how would you feel if your kid came home with a report card that said, "Johnny is a C minus."

Schwartz: We also realized that if this was worth doing, it was worth doing for the long haul. With annual reports, the real question becomes not "How is California doing against New York?" but "How is California doing in the year 2000 compared to where it was in 1997?" That's what we hope people will begin to focus on. This isn't a horse race.

Wolk: In next year's report we are going to update the states, but we are shifting the focus to urban systems, profiling city schools and districts. What are states doing—or not doing—to improve urban education? That is the question we hope to answer.

HEL: *What did you think about how the report was received by the press and the public?*

Wolk: There was an enormous amount of coverage and most of it was positive. I was asked at a press conference why we gave letter grades, and I said, "I don't particularly like letter grades, and I wouldn't give them to kids if I were a teacher. But if we hadn't given them, you wouldn't have covered this."

States that didn't do particularly well, like Iowa, Nebraska, and North Dakota, took great umbrage at being given low grades when their students tested highest on the NAEP scores. It's not because they don't have good schools, but because they are strong local-control states that don't get deeply involved in policymaking and allow districts considerable latitude in setting standards.

Schwartz: One happy accident of timing is that this report hit at a moment when education was suddenly at the top of the public opinion polls.

I was thinking this morning about the incredible flip-flop in the political environment that has occurred over the last 18 months. Eighteen months ago the question was, "Should we have a federal education department at all? Is there *any* federal role in education?" Every Republican presidential candidate pledged to abolish the education department. By October the two parties were falling all over themselves to see who could add more to the federal education budget. Obviously the Republicans began reading the same polls Clinton was reading. I think that has something to do with the environment in which this report appeared.

HEL: *Are there clear messages in the report for principals and teachers about what works?*

Wolk: One of the things research shows is that schools where educators share a high sense of mission and purpose tend to demonstrate higher student achievement. People who network and talk to each other and share educational goals can make an enormous difference.

HEL: ***You were saying that some states have good schools but they are not too concerned with setting standards on a state level. If the schools are good, then what is your argument for giving them low grades? What about the old adage, "If it ain't broke, don't fix it?"***

Wolk: First of all, even the best of states don't even have half of their 4th-graders reading at a proficient level. Even fewer had a proficient level in math at the 8th grade. One of our most prominent findings is that no school, and no state in the union, can really be proud of the successes in its educational system.

Schwartz: That to me is what's so important and powerful here. That there really are no grounds for complacency in any state. Even the kids say we're not being held to a high enough standard, that they are not being asked to work hard. The message that Americans have to start hearing is that virtually nobody is doing well enough by any serious national or international standard.

This isn't about casting blame, and this is not one more exercise in bashing schools or teachers. Our premise is not that schools have gotten worse—there is a lot of evidence that U.S. education has gotten at least marginally better—but that the tasks of schools have changed enormously as the economy has evolved, and schools must rise to meet these new challenges.

Invitation to Readers

We want your feedback. Please email us at edletter@hugse1.harvard.edu, or write the *Harvard Education Letter,* 6 Appian Way, Cambridge, MA 02138.

If you would like to order additional copies of this special supplement, please send $5.00 to the address above or call 1-800-513-0763. If you would like copies of *Quality Counts,* please contact *Education Week* at 1-202-686-0800.

SEN. JEFF BINGAMAN

Here in Washington, *Quality Counts* is spurring renewed debate that could accelerate progress toward making high standards and accountability a reality in our schools. The report sends an important message about how our schools are doing and how desperately we need better information.

One of this report's main values is that it presents information in a clear, readable, and comparative manner that state and federal publications do not often provide. Instead of isolated data describing the academic progress of a single state or numbing pages of statistics that appear unconnected to real schools, *Quality Counts* describes, in frank terms, how schools compare from state to state, using test scores, written descriptions, and letter grades.

In addition, the report highlights how surprisingly little useful information is available. "If the data we depend on to monitor the economy were as incomplete, as unreliable, and as out of date as the data we depend on to monitor education in the U.S.," the report states, "we might as well have the economy of a Third World country." While we learn that New Mexico's 7.8 percent single-year dropout rate is the highest of the 17 states that use a comparable method, we lack information for other states or previous years. With luck the report will prompt more states to collect high-quality data.

The publication of *Quality Counts* also presents a valuable opportunity for the National Education Goals Panel to review the data and presentation of its annual report. While the Goals Panel should continue to use only high-quality data, the benefits of user-friendly and comparative information should be considered.

However, some of the letter grades in *Quality Counts* don't appear to mesh with previous reports, widely held perceptions, or even written findings elsewhere in the same report. For example, the report gives New Mexico an "A" for its progress toward setting high standards, a relatively high grade for the resources it dedicates to education, and a relatively low grade for the fairness with which it distributes these resources—results that contradict other reports, general beliefs of many educators in the state, and to some extent the report's own written profile. These concerns must be addressed for the report to have the impact that it should.

At present, some schools are doing superbly and other schools are doing miserably, but, unfortunately, parents often do not know which kind of school their children are attending. *Quality Counts* helps to fill this information gap.

Senator Jeff Bingaman, a Democrat from New Mexico, is a member of the Labor and Human Resources Committee, and one of two U.S. Senators serving on the National Education Goals Panel.

REP. RONALD R. COWELL

For legislators, as well as the parents and taxpayers we represent, *Quality Counts* can help us answer the challenging questions we have about the condition of public education and the effectiveness of education policies. It will help inform the public debate about how we can improve teaching and learning and ensure that all children have access to a quality education.

Too often, policymakers, educators, and the public are left to consider these matters without knowing what are fair indicators of the condition of public education in our states. There is often disagreement about whether we are making progress and frustration when we obtain information that compares the "apples" in one jurisdiction to the "oranges" in another.

The statistical information in the report card is especially useful because the indicators used to compare states are comprehensive and uniform. The summary of reform activity reassures us that no state is alone in tackling education issues that are as complex and controversial as they are significant.

Quality Counts should prompt and inform the public discussion about which reforms should consume our attention. While the answers will vary from state to state, policymakers and the public need to do a better job focusing on the core issues instead of being distracted by the latest fad or inconsequential suggestion. The report should serve as a reminder that state policymakers can more effectively help improve student performance when we focus attention on core issues such as standards and assessment, the adequate and equitable availability of resources, safe and orderly schools, and the assurance of a quality teaching profession.

Many students in every state are receiving a quality public education. But the information in this report underscores the fact that, despite much debate and some policy initiatives in most states, progress toward improving public schools and student achievement has been intolerably slow and inadequate. Even the collection of data remains poor in many jurisdictions.

After reading the report, we should all be more aware of the work that remains. Each of us should be challenged to be more thoughtful yet aggressive as we pursue education improvement through more effective policymaking in our state capitals and more effective practice in our districts and classrooms.

Representative Ronald R. Cowell is a member of the Pennsylvania House of Representatives. Mr. Cowell, a Democrat, is the minority chairman of the House Education Committee.

TERRY KNECHT DOZIER

Quality Counts is a groundbreaking report card on education. By including a measure of the quality of teaching, it goes a long way toward focusing the public's attention on improving education. If we want schools that operate according to world-class standards, we need to ensure that the quality of teachers and teaching is given as much weight as student performance.

Although there is a growing consensus today that professional development is central to successful school reform, this aspect of education reform has been neglected. The greatest service provided by this report is simply to focus public attention on the quality of the people we have in our nation's classrooms and on efforts to establish high standards for teaching.

One of the study's implicit conclusions is that we need to treat teachers more professionally and systematically. We need new and better ways of developing teaching skills and improving teachers' success. Certainly, rigorous professional assessments and incentives to improve teacher certification, which make up the core of *Education Week*'s grading system, are vital parts of building the evaluation system and strengthening the profession. Similarly, strengthening teacher education and committing to high, rigorous standards are crucial components of teacher development. I also strongly agree with the report's focus on external measurement as a means of motivating change.

Nevertheless, we need to make sure that the means used to develop and then measure the profession are linked with improved standards of student achievement. Last fall, President Clinton joined the National Commission on Teaching and America's Future in calling on communities and states to promote excellence and accountability in teaching. The Education Department recently recognized five pioneering schools and school districts whose professional development programs have led to measurable increases in student achievement.

Absent from the *Education Week* evaluation is the importance of ensuring that professional development occurs in the context of communities and parents. More than 20 years of studies and reports confirm that the best schools—schools that have successfully raised their standards of teaching and learning—are those in which parents and communities are most actively involved. Yet little time is spent giving teachers the tools ands techniques to involve parents as allies in children's learning. Nor do teachers learn how to effectively tap community and business resources to improve instruction.

Ultimately, the best professional development programs will involve teachers, principals, key school district personnel, and college faculty in a partnership. They will recognize and reward entire schools and districts that have made professional development and accountability an essential component along the entire continuum of teacher development.

Terry Knecht Dozier has served as a special adviser to Secretary of Education Richard W. Riley since 1992. Ms. Dozier, a former world history teacher in Columbia, SC, was the 1985 Teacher of the Year.

JOAN DYKSTRA

As the president of the National PTA, representing 6.5 million American parents, I heartily agree that when it comes to the education of our children, ***quality counts***. When we say quality, we don't limit the term to describe just the curriculum, the level of teacher training, the sophistication of technology, or the amount of parent involvement.

We mean *all* those things and more.

Every child in America should come to school ready to learn. Much of that is the responsibility of parents, but it is also the responsibility of the federal government to ensure that programs that benefit families are fully funded so that all children have access to the quality care that prepares them for their educational careers.

Schools of education have an obligation to provide the latest information and technology skills so that teachers enter their profession able to cope effectively with the information age. Those same universities need to institutionalize how teachers work together with parents as full partners to ensure the success of their students. Unless and until parents are full partners in education, reform efforts will not succeed.

Parents have to be at the table when tough education issues are discussed. If academic standards are being debated, parents need to have a voice. It is our children, after all, who are the products of the educational system. We must play an active role at home, at school, and in our community to be sure our schools are offering the best possible academic grounding for future success.

Reform will only succeed when there is open, ongoing, honest dialogue among all of the partners in the process: administrators, principals, teachers, and, yes, parents. If *Quality Counts* serves as a catalyst to make these crucial changes, it will have served an invaluable purpose.

Joan Dykstra is the President of the National PTA. Ms. Dykstra, a resident of Ellicott City, MD, has been an active member of the PTA for 20 years.

GOV. JOHN ENGLER

"Middle of the Pack" is how *Quality Counts* grades Michigan's education performance. An appropriate localization of this summary might be "fair to Midland." In other words, Michigan's performance may be characterized, like the rest of the country, as "riddled with excellence and rife with mediocrity." This is an untenable description if you are the Governor of Michigan, as am I.

Given the relative absence of public reports offering state-by-state comparisons in education, I thought that *Education Week* did an admirable job. While I would question some of their measures and the irresolute assumptions behind them, I nevertheless applaud them for undertaking this massive and important project. If nothing more, they have elevated the importance of developing high standards and appropriate assessments to measure student achievement.

The measures that would provide the most useful information—such as whether state standards set rigorous expectations—are conspicuously absent. This void will soon be filled by Achieve, an organization born out of last year's national education summit. Achieve will serve as a resource center for governors and business leaders, advising them on academic standards, assessments, accountability, and technology.

In the meantime, Michigan will remain focused on the delivery of quality education through high standards, rigorous assessments, and accountability measures that may very well distinguish our state as the leader of the pack.

John Engler, a Republican, is the Governor of Michigan.

CHESTER E. FINN JR.

Which is doing a better job of public education, Arizona or Kentucky? Similar numbers of children attend schools in the two states. About a quarter live in single-parent families. Arizona has more minority youngsters, but Kentucky has more below the poverty line. On the NAEP in 1992 and 1994, the two states had nearly identical (low) scores. Yet Arizona spends a thousand dollars less per pupil than Kentucky.

In any state education report card, you might suppose that Arizona would fare better than Kentucky, at least earning a higher grade for efficiency. Arizona might also be lauded for its bold charter school program, while a question could be raised about Kentucky's cumbersome, hyper-centralized reform plan. So one might suppose. But only if one were naive about the priorities of the education establishment, which on January 16 trundled out *Quality Counts*, a bulky new report card that conferred a grade of "B" on Kentucky and "C minus" on Arizona.

The result of all this effort is three different measures—achievement scores in 4th-grade reading and 8th-grade math, a several-page essay, and six letter grades that have caught the eye of U.S. educators and policymakers. Voters and taxpayers may reasonably wonder what is being graded. The answer is mainly school "inputs," especially money. Indeed, three of the six letter grades are tied directly to dollars: adequacy of resources, allocation of resources, and equity of resources.

All this despite decades of research and experience demonstrating how weak the link is between what goes into schools and what comes out. We have ample evidence that spending more—or more equally—does not mean more learning follows. We also have clear signals from parochial and charter schools that great learning can take place in marginal facilities with lean budgets. Rather than devising rigorous measures of efficiency or productivity, this report is content to signal that more is better.

The essays accompanying the state reports reveal strong preferences for an educator-endorsed strategy of school reform: centralized, uniform, and tightly controlled from above. Establishment leaders dub this approach "systemic reform" and contrast it with the market-style strategies they despise: charter schools, private-contract management, and vouchers. Never mind that there's no evidence the "systemic" approach is producing better results.

No wonder Kentucky fares better than Arizona. The Bluegrass State hews to the party line, while the Grand Canyon State is striking out on its own. This report card's central failure is not that it papers over shortcomings—it's plenty critical. Its fundamental error is that it turns the clock back to a time when quality was measured in dollars, payrolls, credentials, and elaborate bureaucratic schemes rather than the actual performance of schools.

Chester E. Finn Jr., John M. Olin Fellow at the Hudson Institute in Washington, DC, is a former assistant U.S. Secretary of Education. Excerpted with permission from an article that appeared in The Weekly Standard.

JOAN FIRST

Like controversial wall charts of past years that generated competition between states, *Quality Counts* is a political document. As such, it doesn't present a true profile of conditions encountered by children in U.S. schools. Therefore, it won't help children much.

If *Quality Counts* becomes a regular feature of the school reform landscape, it may, with effort, remedy some of education's present failures. However, much of the true picture will continue to be obscured by the absence or unavailability of certain data.

To construct a truer profile, the authors of future issues of *Quality Counts* should:

- Provide a clearer picture of the impact of changing demographics upon schools. The implications of the again-widening gap in achievement between minority and white students take on great urgency when examined against a well-developed demographic context.
- Describe with clarity the profound failure of teacher preparation institutions to prepare their largely white student teachers to work successfully with diverse student populations.
- Investigate the degree to which the voices of parents are excluded from school reform dialogues at all levels, especially parents who are poor and/or members of racial, ethnic, and language-minority groups.
- Report upon the size and composition of the pool of students who do not graduate from school because of arbitrarily raised standards and related assessments.
- Include information from the U.S. Department of Education's Office for Civil Rights (OCR) Elementary and Secondary School survey. These data, collected by race, ethnicity, and gender, examine the degree to which students of color and those whose heritage language is not English are, among other things: (a) excluded from advanced placement classes; (b) deprived of needed English Language acquisition support services; (c) disproportionately suspended from school; (d) over-placed and/or deprived of special education services, depending upon the racial/ethnic group.

This year the Office for Civil Rights, citing a funding shortfall, proposed discontinuation of this survey—a decision that would have destroyed the civil rights record-keeping system in public schools. For the moment at least, the civil rights community has prevailed and the survey will continue.

Joan First is the Executive Director of the Boston-based National Coalition of Advocates for Students, a nationwide network of 23 child advocacy groups that work to achieve equal access to quality public education for the most vulnerable students.

HOWARD FULLER

Quality Counts is certainly a valuable resource for anyone interested in the critical education issues facing America. One shortcoming of the report, however, is its lack of attention to school choice in the section on "Assessing Quality." Of course, we need higher standards and adequate funding. But to think we will get where we need to be by leaving the education system's current power arrangement intact is at best wishful thinking.

If our talk about educating all children, particularly poor children, is to be taken seriously, we must give poor parents the power and the information they need to choose the schools that will be best for their children. We must give poor parents the power to choose schools where their children will succeed—public or private, nonsectarian or religious. And we must give all schools incentives to value parents and children and to work to meet their needs.

Consider the power of this right in the hands of families who have little power because they have few resources. Consider how this power might change the shape of the future for their children. And consider how the absence of this power might mean their children are trapped in schools that many more affluent parents who oppose choice would not tolerate for their own children.

We must also have a radical transformation in our thinking and our practice if we are to make a difference for all of our children. Contrary to the view expressed by *Education Week*'s editors, it will *not* be a "sad loss for America" for "alternative forms of education [to] emerge to replace public schools as we have known them." We must indeed replace "public schools as we have known them" if they do not work for our children. The task before us is to create new forms of "public" learning opportunities for our children, not hold onto a system that miseducates them.

We must heed the words of William Daggett: "We must love our children's hopes, dreams, and prayers, more than we love the institutional heritage of the school system."

Howard Fuller is a Distinguished Professor at Marquette University, and the Director of the Institute for the Transformation of Learning at Marquette. He is the former Superintendent of the Milwaukee public schools.

MARY HATWOOD FUTRELL

Quality Counts is a comprehensive and compelling review of our public education system. It uses an impressive array of performance indicators to analyze state education polices, and candidly concludes that, while some progress toward reforming the education system has been made, much work remains to be done. This is no surprise.

The report applauds the fact that many states have successfully developed and implemented policies to reform their public education systems. However, it also observes that there has not been adequate time or research to determine whether these policies will significantly improve the quality of education for the nation's children.

While many of the findings were very encouraging, others were disturbing. Children who are poor, minority, and live in urban or rural areas are still the least likely to attend schools that can or will improve the quality of education. This should alarm us all. The report's conclusion that America's schools are "riddled with excellence but rife with mediocrity" correctly characterizes the continued unevenness of the reform movement and the large inequities in school finance. As a nation, we devote the fewest resources to the children with the greatest needs.

Students cannot achieve what they have not been taught, and teachers cannot teach what they do not know. As the report notes, teachers must understand what the standards are, integrate them into the curriculum, and, most importantly, be prepared to teach to them. Schools of education and school districts should work together to ensure that standards are integrated throughout teachers' pre- and in-service education programs. This should result in a major if not total revision of teacher preparation and professional-development programs.

This type of assessment is critical. For those who are working to reform the system, the report's analysis of current polices and their effectiveness is encouraging. For those who are not involved in or disapprove of the reform effort, the findings should cause them to pause and reflect upon the implications for the nation if the public schools are not reformed.

Mary Hatwood Futrell is the Dean of the Graduate School of Education & Human Development at George Washington University. She is the former President of the National Education Association.

KATI HAYCOCK

During the months leading up to the publication of *Quality Counts*, the staffs of the Education Trust and *Education Week* shared much of the data that we'd collected for our respective reports. Our own *Education Watch* report, describing achievement patterns by race and class, was released in December 1996. We talked a lot about various ways to present these complex data sets and agonized about how hard it was to get it right.

We produced our report because we believe that it is critically important to get honest data out there in ways that enable readers to understand—and, more important, to act on—the serious problems pointed up in the data. The question is whether either report will succeed in providing a platform for action.

The first hurdle with any new report is to get the story covered—and covered accurately. In both cases that experience was pretty good. By themselves, though, neither the reports nor the news coverage matter. What matters is what gets done with the data. And, at least in my experience, folks won't act on information that they have not yet made their own.

For these reports to serve as a foundation for action, interested parties need to create venues for people to come together, review the findings, and discuss what, if any, steps should be taken in their states and communities. At the Education Trust, we've tried to facilitate that process by producing a guide that local communities can use to collect and analyze their own data on how students of different backgrounds fare on their journey through school. We have also co-hosted forums with state and local groups. But we've only just begun to scratch the surface.

Creating opportunities for educators, community members, and policymakers to come together to look at honest data on student achievement and figure out what to do has to be a high priority for all of us. Until people own the problem—and the solutions—we're not likely to move ahead.

Kati Haycock is the Director of the Education Trust, a nonprofit organization in Washington, DC, that is working to build connections between K–12 and higher education.

HAROLD HOWE III

If *A Nation at Risk* had been a factual report on American schools like *Quality Counts*, instead of a diatribe on their presumed shortcomings, school reform in the United States would be far ahead of where it is now. It took five years or more to turn around the misuse of test scores and other errors that characterized the 1983 publication. The opening sentence of this new and promising study says, "Public education systems in the 50 states are riddled with excellence but rife with mediocrity"—a statement more accurate and much more helpful than the rantings of its predecessor.

These brief comments are high-priority items to consider in future versions of this study.

The section on race and demography is useful but inadequate. By the year 2050, the enrollment of American public schools will be about 60 percent non-European, many of them non-white; the resegregation of schools for Hispanics and African Americans is growing; human relationships in our increasingly diverse society are in need of prayer. Schools have important roles in these issues, which are mostly ignored in this study.

Three major strategies undergird this prescription for reform: challenging standards, improved assessments, and high-quality teacher performance of new kinds. Unless teachers have a major role in defining and establishing standards and assessments, progress toward these goals will be seriously handicapped. Standards and assessments imposed without strong participation are likely to fail. Furthermore, they will curtail professional status for teachers.

A major distinction between education and schooling is inadequately served in this study. Between birth and age 18, young Americans are in school about 8 percent of the time. The education that happens in the home and community deserve more attention than this study gives it because of its powerful influence on school success.

Harold Howe II is Professor Emeritus at the Harvard Graduate School of Education and a former U.S. Commissioner of Education.

JENNIFER HUNTINGTON

Quality Counts is a wonderful initial effort to assess the quality of education across our country. As a principal, however, I am wary of giving grades for a whole state. Such an assessment is out of line with current research, which calls for multiple modes of assessing achievement, and does little to help individual communities that are working hard to provide quality education. Each community, school system, and school needs to be held accountable for the success of all of its students.

Superintendents and principals should be asked to demonstrate accountability in more ways than simply test scores, dollars spent on textbooks, teacher recertification, and curriculum frameworks for academic subjects. We should be able to show that our schools expect nothing less than the highest standards from every student. We should be able to demonstrate that parents and students are satisfied that the curriculum is interesting and relevant and taught by qualified and caring teachers who are regularly evaluated.

The modes of assessing student achievement should be varied and include, but not be limited to, standardized testing. We should be accountable for providing a wide variety of opportunities for extracurricular activities, community service, school-to-career pathways, and adequate guidance help. Lastly, students have the right to expect clean, safe buildings with appropriate technology that enhances excellence. None of this is easy to measure in the form of hard data, but we should try.

Every principal and every superintendent knows this. If *Quality Counts* focuses the attention of political and business leaders on what more needs to be done, then it will have served a valuable purpose.

Jennifer Huntington is the Headmaster of the Watertown, MA, public high school.

SOL HURWITZ

The corporate community should welcome *Quality Counts* because it has been in the vanguard of those who believe that quality in education will determine the course of our economy and our society. Clearly, progress depends heavily on the states, and business is a crucial player in every state. *Quality Counts* can help arm business with the facts and analysis that are essential for enlightened participation in the policy process.

Still, progress in education is fiendishly hard to quantify. The report frankly admits the absence of crucial data—the percentage of children who attend preschool, for example—and provides important cautionary explanations to accompany each state report card. Read the fine print: those who make judgments based purely on the letter grades do so at their peril.

Quality Counts is in tune with business' call for clear academic standards and accurate measurement of student achievement. However, while it rightly asserts the need for more rigor in the academic program, it gives surprisingly scant attention to the importance of applying the same rigorous standards to work-based learning and such job-related skills as teamwork, communication, and problem-solving.

Quality Counts underscores the yawning achievement gap between students in cities and suburbs. Conditions that pervade our inner cities and their schools—poverty, family breakdown, inadequate resources, and a climate of violence that hinders teaching and learning—are powerful barriers to progress. To be sure, individuals and individual schools have successfully beaten the odds. But we shouldn't ignore this ticking time bomb.

Schools alone cannot rebuild our inner cities. What we need is a comprehensive community-development strategy that links the schools with other critical community resources—housing, health, public safety, and jobs. Such a strategy needs to unite business, government, and the community residents in a partnership for constructive change.

A suggestion for *Quality Counts II*: public policy would benefit enormously from a more detailed analysis of the widening chasm between city and suburban schools.

Sol Hurwitz is President of the Committee for Economic Development, a nonpartisan research and policy organization of 250 business and education leaders.

DEBORAH W. MEIER

Quality Counts presents some interesting and worthwhile data. But it too often reduces our understanding of public education to a set of simplified and sometimes meaningless measures, far removed from the people who know the children and their families and communities best. This is particularly true with regard to its grading of states based on the latest round of top-down, mandated, test-driven reform, which it euphemistically calls "standards."

The existence of compulsory education, spanning 12 years of our children's lives, places a special obligation upon us—an obligation to treat our differences of opinion, our diversity, with the greatest of care and to use public education to enhance our respect for our differences. The interests of the state must be carefully weighed and balanced against those of the individual community, school, family, and child. Too many communities already feel alienated and powerless before large-scale institutions that dominate their lives. Our schools remain one of the few potentially powerful influences that require us to think, argue, and reason together. Let us not remove from them the very issues we need to be reasoning about.

Mandated curriculum, backed by high-stakes tests that can determine a child's entire future, should be approached with great caution. Beyond basic reading, writing, and mathematics, the states' mandates should be as lean and uncontroversial as possible. Even where consensus exists, the state must tread with care. There is no *permanent* right answer to what constitutes the best education.

The public responsibility is to define general parameters, set down broad guidelines that can then be filled out community by community, school by school, within the context of a system of public school choice. Providing exemplars, offering models, making information accessible regarding the merits of various approaches are quite different from prescribing the One Right Way.

Twenty-first century schools must be far more effective than those of the late twentieth century. As we move forward, let us build on our strengths—our respect for diversity, for reasoning and arguing together in our local communities over issues that matter—rather than allowing solutions to be imposed by government agencies or experts far removed from our lives.

Deborah W. Meier is the founder of the Central Park East School in New York City and a Lecturer at the Harvard Graduate School of Education. Ms. Meier plans to open a new pilot school in Boston next fall.

RICHARD P. MILLS

Everyone remembers certain teachers as "hard markers" because of their exacting standards. Looking back, they seem to have been the most helpful. *Education Week* is a hard marker in the national report card *Quality Counts*. And it's a good thing, too. A few "A's" and the many "C's" and "D's" remind the states of how far we have to go.

We all know that reforms have to be systemic and the pieces have to fit together, but this report card makes that expectation concrete. For example, the grade on standards depends not just on the standards themselves, but also on what stands behind them: the related tests, reporting, graduation standards, and accountability systems.

For New York, *Education Week*'s timing was perfect. Their report card hit New York two weeks after the State Education Department issued report cards on more than 4,000 schools. The second salvo sure kept the discussion going. And change depends on continuing discussion of results.

State-by-state comparisons are painful but helpful. Every state suffers from the if-it-wasn't-built-here-it-can't-work attitude, and we need to overcome that. *Quality Counts* gives all of us a powerful incentive to benchmark other states. Every state has something to offer and something to learn.

Richard P Mills has served as the Commissioner of Education in New York State since 1995. He previously served as the Commissioner of Education in Vermont.

WALDEMAR ROJAS

Turn on the TV news and everyone from the president to governors to big city mayors is clamoring for the distinction of being "Mr. or Ms. Education." The recent publication of *Education Week*'s state-by-state report card is therefore timely, and it may strengthen public awareness by providing usable information about what is and isn't working in education.

The report will be vulnerable to attacks. Institutional defense mechanisms will describe how the methodology is flawed or unscientific. Nevertheless, it is a useful gauge for comparison and far more beneficial than the dose of 10-second sound bites through which the general public and politicians often receive their knowledge of public education. Of course, if the general media only reports the "grades" (a simplistic, old-fashioned approach to which we can relate), we may be no better off than before and guilty of marketing shallow and useless information. But if we take seriously what has been thoughtfully provided, we may encourage a new wave of data-driven decision making in lieu of the "data free" processes that often work at every level of policy creation.

The report compares the efficacy of reform effort in states that have implemented dramatic changes with those states that have not demonstrated the political will to do so. The assessment of these endeavors should become part of our arsenal as we challenge the status quo to provide breakthrough systemic change for the success of all children.

For example, in Kentucky we see the art of the possible. In 1989 it had one of the lowest per-pupil expenditures in the country and was dead last in the number of students completing high school. Yet in this report Kentucky shows the results of its efforts and receives far better grades than many states, even with its high child poverty rate and limited resources. Kentucky—and other states like Washington, Oregon, Texas, and Vermont—is raising expectations, developing and implementing content and performance standards, holding schools accountable, and emphasizing the value of preschool education and teacher professional development. Perhaps their actions are why Latino students in Texas do better than California's Latino children or why Washington, Oregon, and Texas are seeing how a more skilled work force can lead to job growth in the high-tech industry.

This valuable information must be made accessible in a user-friendly format for parents, teachers, politicians, and the public. The data on what makes public schools successful should be known by everyone. In that way, we are able to speak in one voice to affirm and demand what all our children need and deserve.

Dr. Waldemar Rojas is the Superintendent of the San Francisco Unified School District.

ROBERT F. SEXTON

Just as Napoleon's army marched on its stomach, citizen advocacy groups like the Prichard Committee for Academic Excellence march on information about school quality. The diet has been so sparse that a cynic might claim that malnutrition was intentional.

But *Quality Counts* has started to feed the troops. It sets a new standard for a one-stop assemblage of information and begins, as they say, "to put the hay down where the cows can get it."

Setting a standard means, of course, that it will be criticized, debated, adjusted, and supplemented. But the rough parameters for discussing national education data have been set.

What are the implications of having this timely, consistent, and comparable information?

First, as a Kentuckian observing education policy from a citizen's perspective over the last decade, I am struck by the power of time. The implementation of some policies seems to go on forever. The report, with its evidence of how far some states need to go, reminds me again just how long changing education can take.

Second, the sheer mass of the change captured in *Quality Counts*, and the way each piece fits with the other pieces, reinforce a fundamental belief: educators cannot and will not do all that it takes to teach each child well without pressure and support from an informed public. There are so many ways for educators and politicians to get off track that the public must demand that they stay focused and not veer off onto fruitless side roads. The reform-minded public has to say, "We'll stick with what we started until we know for sure what it means for children."

Third, ranking states by judgments about policy "quality," no matter what the standard, can have dangerous, unintended consequences. Kentucky, for instance, probably gets too much credit for some measures just because we're ahead in the game. Yes, we may be ahead, but we've just started. The danger is the mistaken impression that "we've done that."

Quality Counts is a historic first step toward a supply line of better information, a line critical to communities that care about their schools. Now we need to make sure the information is nutritious, and the plates are handed out to everybody.

Robert F. Sexton is the Executive Director of the Prichard Committee for Academic Excellence, a nonpartisan advocacy group dedicated to improving Kentucky public schools. He was the founder of Kentucky's Governor's Scholars Program, the Commonwealth Institute for Teachers, and the Kentucky Center for Public Issues.

TED SIZER

Quality Counts is already making waves. Of course one curses the fact that it takes the assignment of grades to catch attention. The most ubiquitous and complex formal social institution in the society is newsworthy only when it is reduced to a letter!

But with the grades comes public attention. The fact that the report insists that "standards" include more than just measured scores on tests is terribly important. It hangs some folks with power on hooks that they have carefully avoided up to now. Everyone will benefit from this.

The next hill to climb is to tell the world how well those scores we assign kids correlate with their later lives. If they don't correlate, if they are lousy predictors, how can we responsibly take them as seriously as we do? Should we be teaching to tests which in fact do not test for what we care about? Now *that* issue will discontent the contented!

Ted Sizer is the Chairman of the Coalition of Essential Schools. Excerpted with permission from a letter to Ron Wolk.

ADAM URBANSKI

The first step toward improving our schools is to have more information about the problems we face. *Quality Counts* is a good impulse but a less than perfect construction. It compiles and reports a great deal of information that should be tracked and that will be useful to policymakers. But even if policymakers give the report to school leaders, it is unlikely to have a widespread impact.

There are a couple of reasons for this. First, the report simply tells us whether states have standards, not how strong or rigorous they are. That, in itself, is a low standard. Shouldn't we know whether these standards are clear, specific, and grounded in content? Shouldn't we know whether they will translate into a strong curriculum and strong assessments? Wouldn't that be more helpful in efforts to address such questions as equity and student mobility?

The American Federation of Teachers' 50-state report, *Making Standards Matter*, explores not only which states have set standards, but whether or not they provide real guidance to teachers, parents, curriculum developers, textbook publishers, and test makers. A standard that requires students to "analyze and interpret historical events from a variety of periods" doesn't go far enough. Which periods and which events are most important? And what is it about events that students should understand? That is the level of guidance that teachers want from academic standards, but in too many cases they aren't getting it.

The point here is that content matters. Without content it is difficult, if not impossible, to make judgments about rigor. And when it comes down to it, what we all want to know is, "Are my state standards challenging enough?"

The second reason why this report won't have a huge impact is that it is not likely to reach very many teachers. Few will discuss or use the report. But that is part and parcel of the ongoing disconnect between policymakers and practitioners. Little filters down to where it matters most: the classroom and the teachers. It will take more than just issuing a report to break this pattern.

Future versions of the report can build on the first edition by providing more specific information and by identifying effective ways to ensure it reaches classroom teachers.

Adam Urbanski is President of the Rochester (NY) Teachers Association and a Vice-president of the American Federation of Teachers.

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A New Consensus Emerges on the Characteristics of Good Professional Development

Reforms show promise for driving whole school change

BY ANNE C. LEWIS

We know what's wrong with traditional professional development—using good teachers in mundane ways that discourage reflection, sharing, or the building of a professional learning community. The failure of what has served as professional development for several decades is well documented: It rewards teachers for coursework that is often unrelated to the classroom or only results in moving them into administration; it tends to reinforce practice rather than change it; and it is so unchallenging that teachers put little stock in it (see "The Old Model of Staff Development Survives in a World Where Everything Else Has Changed," *HEL*, January/February 1995).

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A Winning Strategy

Fortunately, this picture is changing. Even before the research began to accumulate on how best to change instruction and learning through professional development, the teachers at the Samuel Mason School in Roxbury, MA, began to put together a range of opportunities for all of them to become learners, again. Five years ago the faculty chose to become an Accelerated School, joining a nationwide network of schools committed to changing governance, expectations, instruction, and parent involvement in order to help poor children achieve at high levels.

The staff and parents at Samuel Mason first created a shared vision, then compared their vision with existing programs. "We realized that we had three classes of special education children who were left out of our expectations," says Mary Russo, principal at the school for seven years. Deciding to include these children in regular classes "was the catalyst for changing our professional development. We had to ask how we could pool our resources and how we could learn new approaches that would reach all children, now that we had created a greater range of abilities in each class."

Not everything the teachers tried was successful. For example, visiting other schools and attending workshops resulted in little carryover to classrooms at Samuel Mason. A consultant was brought in to help the teachers build a good early childhood developmental program (Mason enrolls students from age three through 5th grade). When the consultant's efforts began to produce real change, Russo realized they had discovered a winning strategy.

By pooling Title I, local, and state funds, the school brought in a series of consultants who stay a full day each week observing, coaching, and demonstrating. There are teacher study groups, model classrooms for technology and new literacy strategies, and peer coaching. Teachers devote every 10th day to professional development activities, all geared to the priorities decided upon by the staff (reading, writing, math, and technology).

"This is a story of whole-school change through professional development," says Russo. "None of us will ever look at children the same way again." Student reading and writing performance has improved considerably, and parent involvement is almost 100 percent. Once the school least desired in the Boston choice plan, it is now the

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12th most popular, with a waiting list for all grades. Samuel Mason also was one of five schools selected by the U.S. Department of Education for its first awards based on the quality of professional development (see "Model Professional Development Programs Receive Awards," p. 3).

A New Look

Samuel Mason's design for professional development reflects what researchers are learning about what makes a school a good learning environment—for teachers. Upgrading teachers' knowledge and skills to match the demands of higher content standards for students is more complicated than just sending teachers back to college to improve their content knowledge. This is one of those silver-bullet ideas that, on reflection, misses the mark. Sharon Robinson, former assistant secretary for research at the U.S. Department of Education, warns against such a simplistic answer. "Research shows that more exposure to discipline knowledge results in didactic teaching because that's the way the disciplines are taught," she says. "We need to look at a pedagogy around content and teaching for understanding."

Research on what constitutes good professional development is rich and remarkably consistent across many studies. The "new look" for professional development represents an "almost unprecedented consensus... among researchers, professional development specialists, and key policymakers," according to researchers Willis Hawley and Linda Valli of the University of Maryland. One of the most persistent research findings, they say, is that when schools become places for teachers to learn, they also become schools on the way to improvement.

As long as school improvement is defined as "increasing the level and amount of facts and simple skills students must learn," Hawley and Valli say, teachers will remain isolated from each other, and have no reason to work collaboratively. However, they believe this "teaching by telling" is being replaced by "teaching for understanding," at least where instruction and learning are seen as the focal points of change.

Reviewing new studies of professional development and several syntheses of research, Hawley and Valli identified eight characteristics of effective professional development, a profile that teachers at Samuel Mason would recognize immediately. Good professional development:

1. is driven by analyses of data that show the gap between the goals set for student learning and actual student performance;
2. involves teachers in the identification of their learning needs and, when possible, in the development of opportunities to meet them;
3. is primarily school-based and integral to school operations;
4. provides learning opportunities that relate to individual needs but are, for the most part, organized around collaborative problem-solving;
5. is continuous and ongoing, involving follow-up and support for further learning, including support from sources external to the school;
6. uses multiple measures to determine how professional development affects student outcomes;
7. provides opportunities to develop a theoretical understanding of the knowledge and skills to be learned; and
8. is integrated with a comprehensive change process that is designed to overcome the barriers to student learning.

Many would add an additional characteristic—good professional development is designed to overcome the barriers to *adult* learning. This requires incorporating theory and practice of adult development and learning into all professional development programs (see "Giving Voice to Our Hidden Commitments and Fears: A Conversation with Robert Kegan," *HEL*, January/February 1995).

Organizing Schools

To organize a school for teacher learning, Judith Warren Little of the University of California, Berkeley, recommends that the school's walls become more "permeable," helping teachers participate in a professional community beyond the school. The most long-lived of such initiatives is the Bay Area Writing Project, but Little mentions others such as the humanities collaboratives started by the Rockefeller Foundation, the Urban Mathematics Collaboratives, and study groups such as the Southern Maine Partnership.

The school context also should influence what individual teachers propose for their professional development, Little says. The school faculty needs to set criteria, such as whether the proposal reduces teacher isolation, strengthens teachers' capacity to examine and assess their own work, engages teachers in active intellectual activity, and explicitly takes into account their particular school's characteristics.

Short-term consultants may have some use, but Little urges forming sustained partnerships as an important component of school-based professional development. The Samuel Mason School, for example, has a long-term partnership with Boston College, in which college faculty help design assessments and serve as consultants. Professional development schools, where individual schools and higher education campuses form two-way partnerships to enhance learning at both sites, are an obvious tool for this approach, Little says.

Building Networks

The National Center for Restructuring Education, Schools and Teaching at Teachers College, Columbia University, relies upon building networks among teachers as a professional development tool that encourages teachers to be learners. The center's success with these networks led Ann Lieberman, codirector of the center, and Maureen Grolnick, a research associate, to study 16 other networks around the country, from long-standing ones such as the North Dakota Study Group and the Harvard Principals' Center, to newer ones like Four Seasons, a national electronic network for teachers trying out different kinds of assessments.

Networks are becoming increasingly important in school reform, Lieberman and Grolnick say, because they foster collaboration and conquer geographic isolation. Teachers find courage as well as knowledge through their participation in networks that help them take on leadership roles in their schools.

Lynne Miller is director of the South-

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Model Professional Development Programs Receive Awards

The National Awards Program for Model Professional Development, a new program of the U.S. Department of Education, is based on principles for high-quality professional development drawn up by more than 60 organizations. In addition to the Samuel Mason School in Roxbury, MA, the first awardees, announced in December 1996 include:

San Francisco Unified School District—Professional development is customized to the individual needs of schools based on an analysis of student data and desired learning outcomes. The resources developed for a school could include workshops, study groups, action research, conferences, demonstration teaching, coaching, modeling, master practitioners, and opportunities for networking.

Lawrence Public Schools, Lawrence, KS—The school district gives credit for professional development activities that provide evidence of actual changes in teacher behavior in the classroom; the changes must be tied to improved student achievement. Teachers write their own professional development action plans, then monitor them with videotapes, journals, and portfolios. Local parents, private school teachers, and parents who provide home schooling for their children are invited to attend seminars and other activities.

Wilton School District, Wilton, CT—A renegotiated contract with teachers set an eight-hour day in order to provide professional development time each day. Plans and decisions for professional development are directly connected to district goals, curricular needs, student assessment results, and individual teacher performance needs.

Woodrow Wilson Elementary School, Manhattan, KS—Since 1990, this professional development school, affiliated with Kansas State University, has provided a model learning environment on the teaching of math, science, and technology for teachers throughout the state. District-required professional development action plans resulted in more hands-on instructional activities, collaboration and networking, and higher expectations for students.

ern Maine Partnership, one of the networks in the study. The Partnership, she explains, has a mission of "supporting and sustaining learner-centered schools through school and faculty development." Learner-centered, she says, means that the school "is a place where people learn to use their minds well," and everyone, including teachers, students, and parents, can articulate clearly the core skills and knowledge important to that school.

Having started with six school districts connected to the School of Education at the University of Southern Maine, the Partnership now links 24 school districts, three private schools, and the Maine College of Art with the university. It reaches almost 4,000 teachers in the region, and runs everything from teacher support groups to professional development schools. Practicing teachers are active participants in reforming teacher education at the university. That's how "we all have continuous growth, development, challenge, and invention," says Miller.

The Policies Needed

An encouraging aspect of research on professional development is that it offers policymakers clear options. There are real choices to be made on where to deploy resources to support teacher professional growth, and those serious about improving student achievement have to think about different ways of using time, for example, or of providing incentives to teachers for professional development.

Quality professional development sits in the middle of a continuum that begins with teacher selection and preparation and culminates with certification by the National Board for Professional Teaching Standards as an accomplished teacher. This continuum is described thoroughly in the September 1996 report of the National Commission on Teaching and America's Future (see interview with Linda Darling-Hammond, p. 4). Each stage requires setting new policies that support teacher professionalism and eliminating those that inhibit it.

> ***When schools become places for teachers to learn, they also become schools on the way to improvement.***

According to Little, the policies must ensure that professional development is adequately and consistently financed, provides autonomy to schools in shaping working conditions that foster a professional community (e.g., small-scale environments and shared responsibility for student achievement), and incorporates systems of teacher and school accountability that promote teacher development. Most importantly, she says, teachers need policies that give them the time and resources to analyze student work with their colleagues and to develop a shared understanding of what students are showing about *their* understanding of the content.

Researchers Milbrey McLaughlin of Stanford University and Linda Darling-Hammond of Teachers College, Columbia University, have worked extensively with schools around professional development. Their findings led them to recommend policies that enable schools to accomplish the following goals:

- redesign school structures to support teacher learning and collaboration around serious attention to practice;
- rethink schedules and staffing patterns to create blocks of time for teachers to plan and work together;
- organize the school into small, collaborative groups;
- make it possible for teachers to think in terms of shared problems, not "my classroom" or "my subject";
- consider using peer review rather than standard hierarchical supervision; and
- include everyone in a school community, such as principals, counselors, and parents, in creating a shared purpose.

In order for redesigned professional development programs to succeed, other school policies must also change, say McLaughlin and Darling-Hammond. Curriculum policies must guarantee that "what is required is compatible with teaching for understanding and provides reasons for teachers to rethink their practices and assumptions about teaching and learning." Teacher evaluation policies must also be brought into line. The type of teaching expected in traditional teacher evaluations focuses on "transmission" of information. Instead, evaluation systems ought to focus on how well teachers are "teaching for understanding." For example, evaluations should look for the kind of questioning that leads to substantive discussions of content by students, or for activities that focus on critical thinking.

Teacher learning communities thrive because of their flexibility, so policies supporting them also need to be flexible, say McLaughlin and Darling-Hammond. Networks and other professional development initiatives should be allowed "to come and go, to change and evolve." They describe teacher learning as a "web" where networks, seminars, meetings, and other activities crisscross one another to provide an array of opportunities for teacher learning, both in and outside of school.

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REFORMING THE TEACHING PROFESSION

A Conversation With Linda Darling-Hammond

Linda Darling-Hammond is a professor at Teachers College, Columbia University, and Executive Director of the National Commission on Teaching and America's Future. The Commission's September 1996 report, "What Matters Most: Teaching for America's Future," recommends relatively bold action for policymakers and others to reform the teaching profession in order to "ensure there is a qualified teacher in every classroom." Darling-Hammond was interviewed by Anne C. Lewis.

HEL: How did professional development become so mediocre and so beyond the control of teachers?

LDH: Back at the turn of the century, when urban school bureaucracies were created, they adopted the factory-model organization popular at that time, including ideas of scientific management put forth by Frederick Taylor. These ideas said that different kinds of persons were needed for managing and for doing. They separated the role of supervisor from that of worker, creating layers of people whose job it was to plan the work of others. Taylor said that workers were not supposed to think, just do. As in the business world, this created large cadres of administrators in education who were to organize work for teachers who were supposed to do it. Work also was designed to be done in isolation. That undermined teamwork. In this kind of environment, professional development was seen as only a short-term intervention in which you would get a set of directives to guide your work. In contrast, schools in other countries made a different decision about how to organize themselves. Instead of our bifurcated system, teachers in other countries managed most of the work for a school and had time built in to plan and work together. That means that in other countries teachers have more ways of conducting professional learning, such as study groups and visitations—activities more tied to their work.

HEL: The criticisms of professional development are turning into a consensus about what to do to reform it. What are the most important messages from the research for policymakers about the changes that should be made?

LDH: Research says that professional development has to be directly connected to daily work with students, related to content areas, organized around real problems of practice instead of abstractions, continuous and ongoing, and able to provide teachers with access to outside resources and expertise. Professional development should take place within a professional community, a team or network, or both. Changing practice is a difficult and long-term proposition that can't be handled by going off to a workshop. Teachers have to practice change and continually work with others on debugging the problems they encounter.

HEL: What are the links between education reforms and changes in professional development? That is, if students are expected to know and be able to do much more, doesn't that mean teachers also must know and be able to do more?

LDH: The reforms are asking teachers to do two things—understand content areas at much higher levels and do it in more flexible ways. Teachers need to know the big ideas in the disciplines and the scaffolding around those ideas, then how to draw on them to create a curriculum for students that does more than just transmit rules and algorithms and facts—that makes major areas of the disciplines accessible. Teachers also need to be flexible so they can deal with the ideas that come up from students and address their misconceptions. Students are going to bring different learning styles and experiences to the classroom, and the teacher has to figure out what those are and connect their work to those starting points. Most training of teachers is not prepared for these two challenges—content and flexibility.

HEL: The reward system for teachers now participating in professional development usually depends on "seat time." How can teachers be convinced to change to another system?

LDH: We propose that half of the money currently going for education course credits—credits that are helpful but often not related to classroom problems or only prepare a teacher to move into administration—be used as incentives linked to certain actions aimed at improving teaching performance. These would include certification as an accomplished teacher by the National Board for Professional Teaching Standards, a much better way to recognize good teaching than by preparing teachers for administration. Or the incentive might be to help teachers acquire certification in a second teaching area directly related to improving their skills in the classroom.

The compensation continuum should reward teachers for not leaving the classroom. It ought to be possible for an extraordinary teacher to be paid as much as an administrator. In fact, the highest paid person in a school system ought to be a National Board certified teacher, just like a Nobel Prize winning professor makes more than a university president.

HEL: If you could design an ideal professional development initiative within a school, what would it look like?

LDH: First, you would see a rearrangement of the staffing and schedule at the school so that every teacher had 10-12 hours each week for planning with their colleagues, doing curriculum work, and assessing student work around standards. Teachers would work collaboratively, being responsible for the same set of students over time, as well as work together in discipline areas. Over the long term, consulting teachers would be available to the staff to work with them on new practices, such as the writing process or Reading Recovery. Teachers would organize more project-based work in high schools to foster collaboration and integration across the curriculum.

HEL: It takes a long time for policymaking on high to filter down to schools and classrooms. What are some initial steps that schools and teachers could take without waiting for major policy changes?

LDH: Schools could create opportunities for teachers to open doors and share existing practice across classrooms. They could hold faculty meetings in a different classroom each time so that teachers could share and show their favorite practices and begin to build collective understanding and curriculum practice. Schools could also create opportunities for teachers to observe others while they are teaching and to serve as critical friends for one another. This involves rethinking the scheduling and staffing to make this kind of time available for teachers. For example, the principal and assistant principal could substitute for teachers. That would be good for them, too. As the teachers begin to identify and develop collective strengths and needs, they should work together on a wish list and plans for what they would like to learn more about, from one another and from others. Then they can organize their own professional development.

Copies of "What Matters Most: Teaching for America's Future" are available from the National Commission on Teaching & America's Future, P.O. Box 5239, Woodbridge, VA 22194-5239; full report, $18; full report with summary report, video, and discussion guide, $30, prepaid; for information on bulk rates, call 212-678-3015.

System-Wide Professional Development

One district puts it all together

BY ANNE C. LEWIS

Much of the research literature about creating quality professional development deals only with what happens in schools. In fact, research seems to favor bottom-up approaches that call on outside expertise but center initiatives within schools. Can an entire school district effectively pull all the pieces together to create district-wide professional development that changes what goes on in classrooms?

Richard Elmore of the Harvard Graduate School of Education believes he has found a district doing just that. District 2 in New York City is an exemplar, he says, not because its professional development is doing what other districts are not, but because "it is doing a variety of things in a uniquely systematic way."

District 2, one of 32 community school districts in the city, draws its incredibly diverse 22,000-student enrollment from the richest to the poorest Manhattan neighborhoods. District Superintendent Anthony Alvarado made it obvious from the beginning of his leadership in 1987 that he wanted principals and teachers to work aggressively on instructional improvement. In fact, he was so insistent about this focus that those who didn't agree with it felt out of place—about two-thirds of the original principals and one-half of the teachers are no longer in the district.

Organizing Principles

From the beginning, Alvarado used professional development to improve teaching and learning in the schools. Most of the activities are what one would find in a conventional professional development effort—consultants, modeling, or school visits. It is the way they are organized that is distinctive, according to Elmore. He identified seven organizing principles in District 2:

1. It's about instruction, and only about instruction. Everyone in the district, from central office administrators to support staff at the schools, knows that the central idea in the district is to provide high-quality instruction to children. Alvarado explains: "We try to model with our words and behavior a consuming interest in teaching and learning.... We expect principals to model the same behavior with the teachers in their schools."

2. Instructional change is a long-term process, with four distinct stages: awareness, planning, implementation, and reflection. The district's strategy is to use a variety of activities to move principals and teachers through these stages in order to change their practice.

3. Shared expertise drives instructional change. Isolation works against instructional change, according to District 2 staff. District staff regularly visit principals and teachers, partly for formal evaluation and partly to give informal advice. Within schools, principals and teachers share ideas on curriculum and teaching at grade levels and across grades. They also visit other schools and districts, and teams of teachers and principals work on district-wide curriculum and staff development issues. Principals pair up to work on common issues of instructional improvement in their schools.

4. The focus is on system-wide improvement. The "enemy" of systemic change, according to District 2 staff, is the "project." Systemic change in District 2 means that every principal and teacher in the system is responsible for instructional improvement, not only a select few.

5. Good ideas come from talented people working together. Alvarado and his staff work especially hard on selecting and supporting principals and on protecting the quality of the teaching staff (e.g., deflecting the reassignment of teachers to District 2 who have been released from other districts).

6. Set clear district-wide expectations, then decentralize. Schools are accountable for achieving the goals in their annual plans, which are based on the district's own plan. As schools demonstrate that they are making progress, they gradually gain control over professional development funds.

7. Collegiality, caring, and respect are important. Alvarado believes in fostering a culture in which "people cultivate a deep personal and professional respect and caring for each other.... Without collegiality on this level, you can't generate the level of enthusiasm, energy, and commitment we have." As Elmore states, "Deep and sustained change requires that people feel a personal commitment to each other."

What It Looks Like

Professional development in District 2 is not a discrete program. Nor is its purpose to provide ideas that can be taken back to a school or classroom. Rather, as Elmore describes, "it permeates the work of the organization, and the organization of the work. It pops up in several forms in the course of a day for a given teacher or principal."

> ***Good ideas come from talented people working together.***

At the time he studied District 2, several forms of professional development existed. The professional development laboratory, for example, designates accomplished teachers as Resident Teachers; they accept a certain number of visiting teachers for three weeks of observation and supervised practice. The district uses consultants on a long-term basis; they usually work with small groups of teachers. Peer visitations and networks are encouraged, with principals usually accompanying teachers on out-of-district visits. The district offers extensive off-site training, primarily at summer institutes, but the twist is that the institutes must have some kind of follow-up during the school year. Finally, Alvarado and his staff use performance review visits and informal visits to schools to constantly push the message about instructional change. These components are not static, however. Using professional development to improve instruction is a constantly evolving process.

District 2 has stayed the course on its efforts for good professional development over a period of time when most districts would have switched reform agendas two or three times, according to Elmore. He does see some problems ahead for District 2 in moving the effort into all classrooms and all content areas. Elmore's case study is not an evaluation of the district's professional development activities but an effort, he says, to show how a district shapes a strategy "that makes instructional improvement through staff development the central purpose and rationale for the district's role."

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Teacher Research as Powerful Professional Development

By Joseph W. Check

Teacher research is one of the fastest-growing and most promising forces for positive change in schools today. Its premise resonates with teachers at all grade levels: that teachers can construct useful knowledge about teaching and learning by systematically studying their own practice. Elements of teacher research have long existed; John Dewey envisioned teachers as reflective professionals who build theory from practice. A more direct connection can be traced to the "action research" movement of the 1950s and 1960s, which sought to improve the performance of organizations, including schools, by using group problem-solving cycles based on disciplined inquiry.

However, teacher research is a relatively new phenomenon. Jay Sugarman, a 4th-grade teacher in Brookline, MA, and co-founder of the Teacher Research Special Interest Group of the American Educational Research Association, feels that for years there has been little encouragement and support for teachers to study their own practice. "Teachers have been expected to implement the research findings of others," Sugarman says. "They have been the objects of study and not true collaborators in the inquiry process."

But this is changing. "By conducting their own investigations, teachers are now demonstrating that they have much to offer the profession's knowledge base. It is a way for them to grow in their profession without leaving the classroom," says Sugarman.

Because teacher research is an emerging field, its definition is evolving. Researchers Marilyn Cochran-Smith of Boston College and Susan Lytle of the University of Pennsylvania define teacher research as a "systematic and intentional activity carried out by teachers, where systematic refers primarily to ways of gathering and recording information, documenting experiences occurring inside and outside of classrooms, and making some kind of written record."

The term itself is in flux. Many prefer "practitioner inquiry," with its Deweyan roots. Not all "teacher-researchers" are in fact teachers; principals and other administrators, for instance, are often part of school-based "action research" teams. And though virtually all studies carried out by "teacher researchers" can be characterized as inquiry, not all can be accurately called "research."

Validating Teachers

Practitioner inquiry can be a revolutionary form of professional development because it responds in a new way to a fundamental question: Who can validly generate knowledge about teaching and learning?

Traditionally, universities and research organizations have been cast as the "knowers" in education, who study practitioners, or the "doers." Professional development has been aimed at finding more effective ways to get what the "knowers" discover into the hands of the "doers," who can then "implement" it with students.

In practice, the "knowers" often ask questions far removed from the real issues that schools face, producing knowledge that is of little use to practitioners; and professional development programs—which are typically underfunded, short on time, and under great pressure to produce instant results with inadequate resources—can promote cynicism rather than growth.

Fortunately, professional development itself is undergoing reform. The principles of this reform are already embodied in practitioner inquiry, which is an extended, sophisticated form of "reflective practice" that develops and investigates questions immediately relevant to classroom situations. It strengthens professionalism, creates learning communities, honors practitioner knowledge, and involves teachers in outside networks that provide new ideas and support.

By validating teachers as knowers as well as doers, teacher research can turn traditional professional development on its head, offering the possibility of major, long-term changes that are generated by teachers themselves, based on their own investigations of practice. Many teacher researchers say it is the most powerful professional development they have ever experienced.

Several years ago Joyce Simms-Tyson, a 5th-grade teacher in Boston, undertook a two-year study of her classes as part of an urban inquiry initiative sponsored by the National Writing Project. For years she had taught a select group of "Advanced Work" students characterized by high reading scores, good behavior, and academic motivation. Interested in the debate on tracking, Simms-Tyson elected to give up her Advanced Work students and return to a "standard" 5th grade without altering her curriculum or expectations in any way. For two years, she studied the effects of this decision on herself and her students, using journals, interviews, collections of student work, and other techniques. She was supported by monthly meetings with a teacher research group sponsored by the Boston Writing Project of the University of Massachusetts, Boston.

Teacher research can turn traditional professional development on its head.

Of the experience, Simms-Tyson says, "Teacher research is a journey into the unknown. You have to take risks you've never taken before, to reflect, process, question, and observe. You ask, What is it that makes me think that I'm relating to my students in a certain way without any concrete evidence or feedback to support my sense of what is going on in my classroom? Are there blocks within me that prevent children from excelling, and am I aware of them?" Energized by extended inquiry into her own classroom practice, Simms-Tyson has influenced others by becoming a keynote speaker at a statewide teacher research conference and by taking an active role in efforts to improve instruction at her school.

Her story is typical in several ways—the experience of teacher research has been transformative for her, deepening her sense of herself as a professional. It has also encouraged her to take on other leadership roles while maintaining her primary identity as a classroom teacher. Further, she benefited from the support and training of a local, university-based group in developing and completing her inquiry, and this group was part of a larger network.

Increasingly, universities, state departments of education, and other organizations are working with schools in this new way, providing training, support, and continuity for teachers to explore and make visible their own knowledge about practice. As change initiatives proliferate, networks of school-based practitioner inquiry groups are increasingly common. Many teachers would argue that both small working groups and larger networks are essential aspects of practitioner inquiry. Small groups give practitioner inquirers face-to-face support and an immediate audience for their developing understandings, insuring that their findings travel beyond the walls of their own classroom. Networks give them access to a wider community of co-inquirers with similar problems and successes, and allow sharing of methodologies and conclusions on a scale that, over time, can raise everyone's work to a higher level.

Multi-school networks are currently operating in a number of states. In Georgia, the Program for School Improvement works with more than 90 schools to promote practitioner inquiry as a way to document student learning; Wisconsin is using practitioner inquiry as a vehicle for statewide curriculum reform; and Massachusetts is in the second year of a practitioner inquiry documentation project involving a statewide network of 13 Accelerated Schools.

Such innovations extend the current limits of practitioner inquiry and forge important links between top-down mandates like curriculum reform and the bottom-up, teacher-driven initiatives that are essential for change. On the other hand, pressure to document narrowly measured learning gains in a short period of time can make teacher inquirers feel they no longer own the process in which they are engaged.

One elementary teacher researcher, a veteran of the "reform wars" in a large Northeastern school system, put it this way: "Whole-school change initiatives

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assume that there's a whole school to change—that the school is already in some meaningful way *whole*. In most of the schools I know, that's just not the case. One of the early steps in creating real change is to begin to make the school whole. For me, teacher research has been a way to improve my own teaching, to get my colleagues talking to each other about real teaching and learning issues, and to begin to adapt the change initiatives, based on our inquiry findings, so they fit our kids, our teachers, our school."

New Directions

Teacher researchers increasingly challenge the traditional one-way definition of knowledge construction—from theory to practice, from university to school—and replace it with one that works in two directions, moving both from theoretical constructs to practice, and from closely observed classroom events to wider meanings. In so doing they bring theory and practice closer together, a long-cherished but seldom realized goal in education. They make the educational research endeavor both democratic and pragmatic.

> ***"Teacher research is a journey into the unknown. You have to take risks."***

There are growing pains, however. Despite a great deal of activity across the country, it is not yet clear whether one can speak of a true national teacher research movement. Nor is it clear whether practitioner inquiry, by nature a local endeavor, will become an accepted part of our national picture of either professional development or educational research. Supporters and teacher researchers themselves point to at least two areas of concern:

How will practitioner inquirers receive adequate recognition, time, and support to formulate and pursue their work? If practitioner inquiry is to win acceptance as a new and powerful form of professional development, its advocates must join with others working to change the traditional pattern of underfunded, quick-fix in-service sessions. They must continue to demonstrate that, over time, their work actually changes classroom practice—the Achilles heel of traditional professional development—and that these changes have a direct impact on student learning. Alliances with universities and outside research groups can help achieve these goals, but the long-term health of such alliances depends on practitioner inquiry continuing to develop as a research methodology immediately useful to practitioners and controlled by them. This leads to a second concern.

Can practitioner inquirers develop distinct inquiry formats and ethical and quality standards to sustain their work? By its nature, practitioner inquiry is school based and local. If it is to find an influential and permanent place nationally, its advocates must begin to define its unique contribution to knowledge about teaching and learning, and to develop ethical and quality standards for their work. Practitioner inquirers have questions about their own processes as researchers, as well as about their students. Is what a 1st-grade teacher discovers about her classroom through systematic journal keeping, observation, and analysis a "research project," "just storytelling," or "classroom narrative"? Or is it all of the above—an inquiry genre that hasn't existed before, a new and promising tool for understanding what goes on in classrooms? Is there an audience for her work beyond herself and her students? Are there ethical and methodological standards her work should meet?

How can such questions be addressed? An important next step may be the structuring of regional and national conversations around what is happening at local sites. Susan Lytle feels that if practitioner inquiry is to fulfill its promise of bringing lasting change to teaching, we need "critical discourse on how the concept of teacher research is being constructed differently by various teachers, teacher research groups, and university sponsors, and to what ends." Such discourse would build on the contributions of the hundreds of individuals, groups, and networks conducting various forms of practitioner inquiry across the country. It would make their work nationally visible, explore critical questions arising from that work, and connect practitioner inquirers to each other and to the wider research community.

Practitioner inquiry will continue to grow at the school level as it is embraced by more teachers and administrators. Whether it reaches its potential for changing structures as well as individuals, and patterns of professional behavior as well as single classrooms depends largely on whether this embrace is a critical rather than an uncritical one. To be critical requires developing forums for discourse and forming alliances with advocates for new forms of professional development and proponents of new forms of university-school partnership. If this is accomplished, practitioner inquiry can emerge as a powerful, teacher-centered, democratic, and pragmatic force for reforming our schools.

Who to Contact

National Writing Project (NWP): The NWP has more than 150 local sites in 47 states; many of these sites are knowledgeable about practitioner inquiry in their local area. The NWP Web Site also has a new section devoted to Teacher Research On-line (National Writing Project, 5511 Tolman Hall, #1670, University of California, Berkeley, CA 94720-1670; 510-642-0963. Web site: http://www-gse.berkeley.edu/Research/NWP/nwp.html).

Action Research International provides an opportunity to find out what's going on in the world of action research, as well as post your work, receive comments, and submit articles for inclusion in an on-line journal. (Web site: http://elmo.scu.edu.au/schools/sawd/ari/arihome.html)

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Language-Rich Home and School Environments Are Key to Reading Success

Children learn some of their most important reading lessons at the dinner table, according to a groundbreaking study

BY LEON LYNN

Mealtime is often a young child's best opportunity to engage in "interesting conversations with adults," says Catherine Snow, a professor at Harvard's Graduate School of Education and a principal investigator with the Home-School Study of Language and Literacy. Those conversations, Snow says, give children the chance to develop and practice oral-language skills—such as describing events beyond the here and now, and learning new vocabulary—activities that the Home-School Study shows are strongly related to children's reading success in elementary school.

Snow and David Dickinson, a senior research scientist with the Education Development Center in Newton, MA, and the study's other principal investigator, believe the Home-School Study can provide meaningful guidance to teachers in preschools and elementary schools as they shape their classroom practices and consider how best to interact with children's families. Researchers have long known that early reading success is a strong predictor of academic success in later grades, because after grade 3, demands on the student change from "learning to read" to "reading to learn," as reading becomes a fundamental means for acquiring new knowledge about all subjects.

A New Approach

Traditionally, preschools focus on socializing children to function as part of a group, and on providing children with opportunities for free exploration of various learning materials. Some preschools also prepare young children for later schooling by stressing basic print-knowledge skills, such as identifying numbers and letters and learning the names of colors and shapes. In addition, preschools "have done a good job of getting the message out to parents that they should be reading to their kids," Dickinson says.

These activities are undeniably important in getting children ready to learn how to read. But despite the efforts of Head Start and television programs like "Sesame Street," economically disadvantaged children still lag behind their more advantaged classmates when learning to read. Snow, Dickinson, and their colleagues set out to investigate the connection between early reading success and oral-language skills, and to examine what factors in the home and school environments support the acquisition of those skills.

In 1987, researchers with the Home-School Study began gathering data on 83 three-year-old children from low-income families in the Boston area. All of the children were English speakers enrolled in Head Start or other subsidized preschool programs. The researchers have analyzed interactions between mothers and their children during book reading, play sessions with toys, storytelling, family meals, and, as the children have grown older, homework-like activities. They've also interviewed the children's parents and teachers, and observed the children's interactions with teachers and other children

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at school. Each year, the children also undergo a battery of literacy and language tests and activities.

The Home-School Study is clearly different from most research to date on children's literacy. While most research has focused on "decoding" skills, such as how well a child can sound out words and recognize different word forms, the Home-School Study looks at real-life conversations between children and adults. In addition to researching early oral-language development, the study is breaking new ground in research on vocabulary acquisition. Patton Tabors, the study's research coordinator, says that researchers typically study vocabulary acquisition in more controlled settings by observing under what conditions children learn new words. Instead, she says, "we're looking at how that process happens in the child's home and in the child's classroom, with real words, and how adults support that."

Study Findings

Now, in the 10th year of the Home-School Study, research assistants have collected "mountains of data," Tabors says, which will no doubt keep researchers busy for years to come. Some significant findings have emerged from analyses completed thus far.

The study has shown that the level of vocabulary present in adult talk to children who are three and four years old, in the home setting and in preschools, is a strong predictor of the level of vocabulary that child will have attained by second grade. In other words, children who are exposed to more words in their conversations with adults, and more unusual words, tend to develop larger vocabularies.

"Because we collected language samples in different situations, we found that each of those situations elicited a different group of vocabulary items," Tabors says. For many children, the richest opportunities for exposure to new words came at mealtimes. Those conversations "expose kids to a lot of rare words in various contexts that help kids figure out what they mean," she says. A mother might say she needed a "colander" to drain the water from a pot of spaghetti, for example, thus providing a meaningful context for an unfamiliar word.

The Home-School Study also documented a strong connection between early reading success among children and the amount of "decontextualized" talk they engage in with adults, in both homes and preschools. Simply put, this means conversation that goes beyond the here and now, and which relies on language to convey images and information about other times and places. A girl describing a recent trip to the zoo over dinner, for example, would rely on her decontextualized oral language skills to describe what she had seen.

For many children, the richest opportunities for exposure to new words came at mealtimes.

Decontextualized talk also can occur when an adult reads a book with a child: the two stop to discuss what the book means, instead of merely reciting the text word-for-word. The amount of decontextualized conversation that occurs during book reading, study researchers found, is strongly associated with that child's pre-reading skills a year later. "We see Head Start and similar programs stressing the importance of reading with children, and parents responding to that," Tabors says. "But what these programs are not conveying is the message that reading a book to a child shouldn't just be a rote exercise. It's not just reading the words, but having interesting conversations about the book that helps children build stronger oral-language skills."

Implications for Classrooms

Why does the home environment play such an important role in the development of young children's oral-language skills? The simple explanation is because the home's language environment is relatively constant and provides important opportunities for language interactions between children and adults. While preschools and elementary schools contribute to children's language development, opportunities for home-like interactions are rare, due to the size of classes and the length of time spent in class. In reviewing data from the Home-School Study, for example, Dickinson found that only 20 percent or less of the time children talked with adults in preschool was spent in conversations that went beyond the here and now. The rest of the time teachers were giving directions or asking children for specific information, such as the names of colors or letters.

Elementary school classrooms can be similarly impoverished. "Classroom environments are not always very language rich," says Snow. Frequently in classrooms, "vocabulary teaching is seen as a separate activity, and as less important than teaching reading or math," Snow says. "Teachers intend to teach vocabulary, but in elementary school that typically means providing students with definitions for 10 words a week, and maybe if the teacher is really good she'll use those words across different lessons." Children can handle much more, according to Snow, who says that elementary-age children frequently learn 10 words a day on their own, mostly from reading.

Dickinson notes that data from preschools give an indication of the limited extent to which preschool children are exposed to varied vocabulary. Analyses of 65 minutes of talk in more than 60 classrooms revealed that, on average, teachers used only 43 words that researchers classified as relatively sophisticated, and therefore the types of words likely to stretch children's vocabularies. Examples of such words include fluffy, gigantic, intrigued, and bagel.

Dickinson and Snow recognize, however, that it can be hard for teachers, even those aware of the importance of rare vocabulary and oral-language skills, to make changes in the way the classroom works in order to support a richer vocabulary environment. Oral conversation, including conversation in classrooms, is usually limited to about 15,000 commonly recognized words, Snow says. "It's hard to do more with vocabulary while you're doing a million other things. It's rare that instead of asking a child to water the plants, a teacher will say, 'I'm becoming

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anxious about dehydration.' But they need to engage in that kind of talk all the time, not just once in awhile."

Teachers can help children acquire new vocabulary and build their oral-language skills by exposing them to a wide variety of experiences, both in and out of the classroom. Tabors says she was looking at Home-School Study data one day, and noticed that different settings presented different opportunities for acquiring new vocabulary. "All of a sudden it hit me," she says. "I realized why it's important for teachers to take children on field trips—every new experience that children have has new vocabulary attached to it."

Building Vocabulary

Teachers can help preschoolers acquire oral-language skills by examining how they read books with the children. To get the full value from reading books with preschoolers, Dickinson and his colleague Miriam Smith found, teachers need to be thoughtful about how they read and discuss books. "Our results indicate that when teachers are reading, it's best to have limited discussion that focuses on parts of the story that might be confusing," he says. "Once the book is over, more extended discussions can be helpful. Just reading books straight through, or departing from the text for extensive dialogue with children, is not desirable."

Dickinson also found evidence that talk between teachers and preschool children, especially during mealtimes, was a predictor of the children's vocabulary skills in 2nd grade, even when the contributions of the home environment were taken into account. "That was a real surprise to me, to get such a long-term prediction from such a limited amount of talk in the course of children's lives," he says. It may be that having such conversation during meals "indicates that these are teachers who are oriented toward language, who are tuned in to the importance of language, and are probably emphasizing it at other times as well." For example, Dickinson says, "those teachers might be more likely to sit down with children during free play, making themselves available for interesting or extensive conversations with kids."

Teachers can, in other words, emulate the types of home-based language experiences that seem to be most helpful to students. Whether these extended conversations occur over lunch in school or over dinner at home, the Home-School Study suggests that students stand to gain from them.

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The Home-School Study of Language and Literacy Development

The Home-School Study of Language and Literacy Development is a longitudinal study investigating the linkages between the early oral-language development of young children, at home and in preschool, and their literacy success when they reach elementary and middle school.

The project began in 1987 by identifying a group of 83 three-year-old children from lower-income families in the Boston area. All were English speakers from families eligible for Head Start services or other types of subsidized day care. The families received small stipends for participating in the study.

At the time researchers conducted their first home visits with the families, just under half were receiving welfare assistance. More than a third were single-parent families, and a third of the children were African American or Hispanic. Among the mothers, 28.4 percent hadn't completed high school, while 43.2 percent had, and 28.4 percent had completed some education beyond high school.

When the children were three, four, and five years old, researchers visited their homes to observe and tape-record interactions between mothers and children during a variety of activities. These included reading books—each family was asked to read Eric Carle's ***The Very Hungry Caterpillar***, as well as other books—playing with toys supplied by the researchers, and storytelling. The families also were asked to tape-record a meal shared by family members. Later, when the children were seven and nine years old, they were observed interacting with their mothers in homework-like activities.

During each of the home visits, researchers also conducted extensive interviews with the mothers, questioning them about their own lives and academic histories, their children's development and adjustment to school, and their hopes and dreams for their children, among other topics.

The study also included yearly visits to the children's preschools and elementary school classrooms. In preschool and kindergarten, the children wore backpacks equipped with tape recorders during snack time and free play, in order to capture their verbal interactions with teachers and peers. In 1st through 4th grade, classroom observations emphasized reading instruction and writing programs. Each year, the children's teachers were interviewed about how the children were doing in class and about their own educational philosophies. Further, starting in kindergarten, the children were given a yearly battery of language and literacy tests.

The principal investigators of the Home-School Study are Catherine Snow, a professor at the Harvard Graduate School of Education, and David Dickinson, senior research scientist with the Education Development Center, in Newton, MA. Patton Tabors, a research associate at Harvard, is the study's research coordinator.

The study has been funded by the Ford Foundation and the Spencer Foundation, and the Head Start Bureau of the U.S. Department of Health and Human Services. Continued funding from the W. T. Grant Foundation will make it possible to follow the same group of children through 7th grade.

LEON LYNN

Helping Children Develop Oral-Language Skills

10 Activities Teachers and Parents Can Do

1. Keep the focus on language skills throughout the day, even when working on "other" curriculum areas. For example, create a "science corner" in the classroom stocked with an old typewriter, doorknobs, zippers, or other interesting contraptions. Arrange for small groups of children (no more than four at once) to spend 10 to 15 minutes there with a teacher. Encourage the children to explain how the devices work; encourage sharing of explanations in small groups.
2. Arrange meal or snack times so that small groups of children eat with an adult. Let the children choose the topics of conversation; encourage talk about personal experiences; encourage "curiosity questions," such as what the food is made of, how it's good for the body, etc.
3. Create a "Personal Experiences" center in the classroom, where young children can talk with teachers about events in their lives while the teachers listen, prompt discussion, and record the experiences.
4. Put books at the center of language enhancement. Read to children, and encourage them to read their favorite books with you. Make time to read to children individually or in small groups. Let children ask questions during reading sessions. Encourage children to reread familiar stories, and push for deeper understanding. Provide books on tape that children can play while looking at the books. Encourage children to record tapes of their favorite stories. At home, parents can read an adult-level science magazine together with their children.
5. Lend copies of books to families. Tell parents what the children are learning in school, and suggest ways to address the same concepts at home. Parents should tell teachers what they are reading with their children at home.
6. Tell children personal stories. Talk to them about things that interest you. Acknowledge uncertainty about some things, and show children how to find answers to your questions.
7. When talking with children, support their efforts to communicate complex thoughts by waiting patiently, suggesting words as needed. Let them control the subjects of conversation, when possible, and encourage their efforts to use new words and describe complex or distant topics.
8. Encourage pretending among children. Make sure children have long periods of time to let complex pretend play develop. Encourage pretending about familiar settings, such as restaurants and grocery store. Provide props that link play to ongoing curriculum units or favorite books. Change props from time to time to keep interest high.
9. Make time for rich conversation with children. Turn off the TV and use the time to talk, or at least watch TV together and then talk about what you watch. Turn off the car radio and talk while you drive together. Set aside a regular "talk time" during which adults and children share news for five to ten minutes and no other activity is performed.
10. Take children to interesting places. Every field trip or new experience has its own vocabulary. Expose children to new places, people, and concepts in ways that permit one-on-one conversations with adults. Encourage children to describe what they see, draw inferences, and predict outcomes.

LEON LYNN

Connecting Home and School

A Conversation with Catherine Snow

Catherine Snow discusses some of the lessons she has drawn from her work on the Home-School Study of Language and Literacy, and her earlier studies of how children develop literacy skills. Snow was interviewed for HEL *by Leon Lynn.*

HEL: What does a "language-rich" environment for young children look like, at home and in school?

Snow: In both places, a language-rich environment is one in which adults and children have extended conversations about interesting topics, using sophisticated vocabulary to convey complex messages. These conversations happen regularly, and the same topics can be visited on several different occasions.

HEL: Is it important that parents and teachers work together to help children develop literacy skills?

Snow: Yes. Parent-teacher relationships are very important for children's optimal progress in school. Considerable research demonstrates this. It's not really a question of whether parent involvement is good, but why. It could be that involved parents are also providing better language environments at home. Or it could be that parents who are involved learn useful things about the school culture that help them prepare their children better.

Parent-teacher involvement also can prevent miscommunications that could lead teachers to believe that parents aren't interested in their children's progress. One thing I have learned, not so much from the Home-School Study but in my earlier work on children and literacy with Jeanne Chall (at the Harvard Graduate School of Education), is that contact between parents and teachers is very positive for child outcomes. Parents get a more complete picture of what the children are doing. When teachers meet the parents, they are often impressed with how interested the parents are, and by their capacity to actually help their children. This often leads teachers to raise their expectations about what parents can offer, and to develop mechanisms for parents to help.

HEL: What should teachers be aware of when they approach parents?

Snow: Teachers have to keep in mind that if they invite the parents to the school and the parents don't come, that doesn't mean the parents don't care. Sometimes it's just too hard for parents to come in; they might be working during those hours, or they might have other problems apart from school that they need to deal with. If I were a school principal, I'd make it the *teacher's* responsibility to meet the parents.

Teachers also have to remember that in many cultures, parents give their children to the school, and they don't expect to have any say. With the increasing ethnic and cultural diversity of our schools, I think understanding this is all the more important. Or you might have parents who remember being in school themselves and getting Bs and Cs, and when they see their children doing the same they figure that's fine. Meanwhile, the teacher is saying, "I gave him a C to get the parents in here, but they didn't come, so I guess that proves they don't care." And very quickly you have a downward spiral of miscommunication.

If the teachers assume that good parents are the ones who come to conferences, they are misrepresenting and misinterpreting the activities of a whole group of parents. In those cases, I think it's up to the teachers to go to the parents, to explicitly seek that connection.

HEL: A lot of teachers already feel overworked. Doesn't your suggestion raise questions of teacher burnout?

Snow: Yes, and that's an important point. And it also raises the issue of how the school should be supporting the teacher in doing those things. But the demonstrated positive effect is so great it's the kind of thing we have every right to expect. I think there are ways to make it less stressful. For example, you could rethink teaching as a year-round job. You could let teachers know in August who their students will be, a month before school begins, so they could get out and establish those contacts then.

HEL: Our schools are increasingly serving students who speak other languages, and whose families have little or no English skills. How does this relate to the kinds of learning opportunities that you describe as so important in your study?

If I were a school principal, I'd make it the* teacher's *responsibility to meet the parents.

Snow: It means you have to examine what you mean by literacy. The kinds of parental support that we're hoping children will benefit from are undermined from the start if you expect parents to provide that support in a language they don't speak, if the only literacy you consider to be OK is literacy in English. Switching to English in the home among families where English is a second language is likely to result in a less enriched language environment, with less opportunity for interesting conversation that incorporates a lot of sophisticated, rare vocabulary items. Clearly non-English-speaking parents are knowledgeable experts with resources to offer their children in their home language.

HEL: Is bilingual education affected by this notion as well?

Snow: Yes, and by some basic misconceptions. I think it's one of the places where academics are not doing a good job of connecting with public discourse. We're not doing a good job of getting the word out. One misconception is that young children pick up languages quickly and older children have more difficulty. That's simply not true. A year of studying a language at age 8 gets you the same result as a few weeks at age 14. But bilingual-education policy is still based on this notion that the sooner children learn English, the better.

The second myth is that when you begin teaching children English as a second language, there's no reason to worry about the first language. It doesn't occur to parents that sending their three-year-old children to Head Start in English threatens their Spanish. But often what happens is that the child won't continue to advance with Spanish in a way that generates real, high-level bilingualism.

We take the 15 or 20 percent of children who would be the best bilinguals, who have the best chance of developing real fluency in two languages, and we turn them into monolinguals. It's a terrible waste of resources. In many American school systems, Spanish-speaking children with speech or language disorders have to learn English before they can get therapy because there are no Spanish-speakers to work with them. The country needs well-educated, high-level bilinguals, both in domestic society and to function in international contexts. As the country grows more diverse over time, that kind of need is only going to grow. Maintaining the bilingualism of children who are learning English is crucial to meeting those needs.

Smaller Classes Do Make a Difference in the Early Grades

Evidence from Tennessee's Project STAR sends school leaders a strong message

BY FREDERICK MOSTELLER

Every school leader must make critical decisions about how to organize students within his or her school. One major decision—determining size of classes—depends on what is known about the impact of different class sizes. Should all classes be of similar size? Does learning take place more effectively when certain classes are especially small and others are larger? The issue of class size has recently received a great deal of attention. In the wake of studies carried out in Tennessee and elsewhere, the state of California is instituting smaller class sizes (20 students) for grades K-3 (see p. 7). Three other states, Florida, Georgia, and Utah, are also considering using smaller classes in the early grades. In Ireland, small classes (15 students) are being tried in the lower grades in economically depressed school districts.

Promising Research

U.S. education does not lack innovations; rather, it lacks careful, long-term evaluations of their performance. In order to be evaluated well, an intervention must be implemented in enough depth so that it is well defined. Teachers must first develop sufficient expertise to carry out the intervention. Then, after an initial evaluation, adjustments and improvements should be made, followed by further evaluation. This process, however, does not often take place in education. Instead, innovations are frequently introduced without sustained evaluation. As a result, policymakers do not have the information needed to make wise decisions within our education system.

A series of exemplary investigations carried out in Tennessee offers a sharp contrast to this scenario. Results from the Tennessee studies show how different class sizes affect student learning. Relying on these results, school leaders and teachers can confidently make certain decisions involving the trade-offs between larger vs. smaller class size. These studies indicate that it is possible to do excellent, rigorous research on a large scale—in many schools, with many children, over a long time, using a well-designed plan.

Project STAR is one of the great experiments in education in U.S. history.

Project STAR (Student/Teacher Achievement Ratio), Tennessee's four-year study of the educational effects of class size and teacher aides in the early grades, is one of the great experiments in education in U.S. history. Its importance derives in part from its being a statewide study and in part from its size and duration. But even more important is the care taken in the study's design and execution. Not only are the findings valuable, but Project STAR is also extremely important as an example of the kind of experiment needed to appraise school programs, and as proof that such a project can be implemented successfully on a statewide basis.

Historical Background

In the 1980s, conditions favorable for a study of class size evolved in the state of Tennessee. Then-Governor Lamar Alexander had made education a top priority for his second term. The Tennessee legislature and the educational community had been intrigued by a modest-sized Indiana study called Project Prime Time, which found benefits in having small classes in the early grades. The legislature was also aware of an investigation by Gene V. Glass and his colleagues at the University of Colorado and Murdoch University that used meta-analysis to review the vast literature on the effects of class size. The results of this investigation suggested that a class size of 15 or fewer would be needed to make a noticeable improvement in classroom performance. Meta-analysis, however, was not viewed favorably by all professionals then, and the effect of class size continued to be seriously debated.

Noting the expense associated with additional classrooms and teachers, the Tennessee legislature decided that it would be wise to have a solid research base before adopting such a major program. In addition to studying class size, the legislature wanted to evaluate the effectiveness of adding a teacher aide to a regular-size class. Therefore, it authorized and funded Project STAR.

Tennessee's Project STAR

The idea that drove the Tennessee study is that in smaller classes teachers have more time to give to individual children. In addition, teachers and administrators who advocate small classes for students who are beginning school often say they are dealing with a "start-up phenomenon." When children first come to school, they face a great deal of confusion. They need to learn to cooperate with others, to learn how to learn, and to get organized to become students. They arrive from a variety of homes and backgrounds, and many need training in paying attention, carrying out tasks, and engaging in appropriate behavior toward others in a working situation.

The study was carried out in three kinds of groups: 1) small class size (13 to 17 students); 2) regular class size (22 to 25) with a teacher aide; and 3) regular class size without a teacher aide. The study began in kindergarten, and then continued through 1st, 2nd, and 3rd grades. The children moved into regular-size classes in the 4th grade. By comparing average pupil performance in the different kinds of classes, researchers were able to assess the relative benefits of small classes and the presence of a teacher aide. The experiment involved 79 schools from inner-city, urban, suburban, and rural areas so that the progress of children from different backgrounds could be evaluated. In all, the experiment involved about 6,400 students over four years.

After four years, it was clear smaller classes did bring substantial improvement.

As Project STAR approached its final year, the staff requested an additional study. The Lasting Benefits Study was designed to follow all three groups of students as they moved from the small classes into regular-size classes after 3rd grade.

Major Findings

In assessing student performance, two kinds of tests were used: 1) standardized tests, and 2) curriculum-based tests. Standardized tests have the advantage of being used nationwide, but the disadvantage is that the tests are not directly geared to the course of study taught locally. Curriculum-based tests reverse the benefits and disadvantages of standardized tests, measuring more directly the increased knowledge of what was actually taught. Unfortunately, curriculum-based tests usually cannot tell how the results stand in the national picture.

After four years, it was clear that smaller classes did bring substantial improvement in early learning in cognitive subjects such as reading and arithmetic (for details on methods and findings, refer to Mosteller works in "For Further Information"). After following the groups further in the Lasting Benefits Study, the positive effects persisted into grades 4, 5, 6, and 7, so that students who had originally been enrolled in smaller classes continued to perform better than their grademates who had started in larger classes. In the first two years of Project STAR, minority students (primarily African American) gained twice as much as the rest; in subsequent years, however, they settled back to about the same gain as the rest. The presence of teacher aides, though beneficial, did not produce improvements during Project STAR comparable to the effect of the reduction in class size, nor did their presence seem to have as much lasting benefit after 3rd grade.

Implications for Policy

When a well-designed and well-implemented study produces a definite finding, people sometimes believe that the finding should have automatic consequences for policy, which, of course, is not true. School leaders and policymakers have to give serious consideration to all the available alternatives, and to the costs and social consequences of implementing the new policy suggested by the findings. School leaders need to decide if the interventions are cost-effective, where they will be most beneficial, and whether other interventions might be more effective.

Tennessee's class-size study is a good example of how a policy decision is made based on the findings of a solid experimental study. Tenessee policymakers asked themselves where it would be most effective to introduce this intervention, and decided to implement the small-class program in the 17 school districts where the children seemed most at risk of falling behind — those districts with the lowest per capita incomes. The results of the first three years of this program, called Project Challenge, have been encouraging. In the smaller classes, the children from these districts are performing better on both standardized and curriculum-oriented tests than pupils in the same districts in earlier years. Indeed their end-of-year performance has raised their district ranking in arithmetic and reading from far below the average for all districts to above average.

Clearly we need more investigations of the kind carried out in Tennessee, where school districts across a state cooperate to contribute to an important finding. I envision collections of districts or states joining together to design studies of mutual interest, just as medical institutions now routinely join together to carry out cooperative randomized clinical trials. The medical and health care communities have come to expect this. The education community should expect no less.

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Shrinking Pains: California's Initiative to Reduce Class Size Is Off to a Bumpy Start

BY ANNE C. LEWIS

The data from Tennessee's Project STAR, a four-year study related to class size, were central to a discussion in mid-September 1996 among some 50 California state officials, local education leaders, and academics who were called together by the California Education Policy Seminar, a neutral forum for seminars on education policy, to assess the chaos around them. From one end of the state to the other, more than 850 school districts were frantically attempting to implement the class-size-reduction initiative of the governor and legislature with only a few weeks' lead time to put it in place. The initiative allocated almost $1 billion in new monies to share among those districts willing to reduce the ratio of students to teachers to 20:1 in one or more K-3 grades.

While the STAR results were credited with influencing the policymakers' original decision to make this huge investment, some felt that STAR's results were shaky ground on which to pin so much money and so many expectations. Consultant Jeremy Finn, currently a visiting scholar at the Educational Testing Service, confirmed STAR's positive findings, but questioned whether the results were relevant for California. The study included only a portion of Tennessee's primary-age population—6,000 students—while California's initiative has to deal with 1.3 million students in the affected grades. Tennessee's pilot reduced class size even more than California, to 15 students for each teacher. Its schools had a year of planning time; California's had none. Tennessee had a sufficient number of licensed teachers and classroom space; California had neither.

Money Matters

Such comparisons came too late for California administrators and teachers caught in the class-size craze. In her 13 years as superintendent of the burgeoning Campbell Union District, a K-8 district in the San Jose area with about 7,600 students, Marcia Plumleigh has weathered many state policy shifts. She would have used the new resources differently, such as for massive investments even earlier in children's lives, but like most of her colleagues around the state, "we weren't about to look a gift horse in the mouth."

Ninety-five percent of districts participated in the first year of the initiative, and all managed to provide smaller class sizes to more than 980,000 young students in the 1996-97 school year. The year before, most of the same children had been in classes that averaged 28-29 students. Districts participating in the initiative could implement it in up to three grades, but they had to begin with grade 1; if they added another, it was to be grade 2; an additional grade could be either kindergarten or grade 3.

The legislature provided $771 million to cover teachers' salaries, furniture, and instructional materials. An additional, one-time appropriation of $200 million went for facilities. Neither amount covered the average cost to school districts to reduce class sizes.

A 1997 survey by the Legislative Analyst's Office found that districts actually were maintaining student-teacher ratios of about 19:1 in order to stay under the maximum size allowed. As a result, the initiative was costing about $770 per pupil on a statewide basis, while the appropriation provided about $630 per pupil. Moreover, the facilities money disappeared quickly as California's schools found or added more than 18,000 additional classrooms in one year. The preliminary needs for space, as shown in applications for the facilities money, exceeded funding by $121 million.

Difficult Challenges

At the Blackford School in Campbell, for example, Principal David Pribyl sacrificed library space for a half day to make a classroom, and over at the Rosemary School in the same district, the principal resurrected a retired portable classroom. The district already resembled "portable city," according to the superintendent, with 113 portables scattered among its six campuses. Suppliers of portable classrooms for the state informed school administrators this spring that orders were booked through the summer, and that districts that failed to place orders by March couldn't expect to have the portables.

Teacher supply was another challenge. One district weathered the teacher supply problem successfully by drawing on its pool of "prep teachers," those who substituted for regular teachers during their preparation periods, and by banking on a salary scale higher than surrounding districts. In general, however, California's districts had severe problems finding teachers for the additional classes. The Legislative Analyst's survey found that the 18,400 teachers hired for the class-size reduction initiative were less qualified, on average, than teachers hired in previous years: they had less teaching experience, fewer qualifications, and a lower skill level, according to district officials' responses to the survey. Twenty-four percent of teachers hired for the smaller classes did not have a teaching credential; 21 percent held an emergency permit. Large districts, those with more than 20,000 enrollment, hired the most teachers who were entry-level, on an emergency credential, or had less than five years' experience in teaching.

COMING SOON

Parent Involvement in Schools

Homework

Assessing Student Work

Little Evaluation

Other than surveys and anecdotal accounts, little reliable data exist on California's first year's efforts on which to evaluate an education reform initiative almost unmatched in magnitude among the states. Does smaller class size result in increased student achievement and justify the expense? How will its impact be distinguished from other factors, such as California's new reading initiative? By Spring 1997, the State Department of Public Instruction was playing catch-up and drawing up regulations specifying the minimum data to be collected by districts in the 1997-98 school year.

> ***The district already resembled "portable city," with 113 portables scattered among its campuses.***

Also in the works were proposals to provide more flexibility in the initiative so that school districts would not feel compelled to hold class sizes down even further than the intended mark (a ratio of 18.5 students to one teacher, according to the legislative analysis, adds 21 percent to the total cost of the reductions). Governor Pete Wilson wants to increase funding to bring the state's support of children in K-3 to $800 per child. His idea to expand the initiative to four grades may be on hold, however, because of teacher supply and space problems.

Morale Is Up

The California class-size effort has broad support. Survey data indicate that the morale of parents and K-3 teachers is up (although it is down for other elementary teachers). James Enochs, superintendent of the one large district—Modesto—that put off participating in the initiative, had to resist the local media's "steady drumbeat against the district" for delaying the start of the program for a year. Enochs had calculated that the state payment would cover only 75 percent of the cost for his 10,000-student elementary district, and schools would have needed to convert libraries into classrooms.

Some see more politics than professional concerns in the California action. Douglas Mitchell, director of the California Educational Research Cooperative (CERC), a group of 25 school and county entities served by the University of California at Riverside School of Education, candidly calls the initiative a political move. "Targeting the funds on class size reduction was motivated as much by a desire to keep money away from the collective bargaining process as to target it on a proven strategy for improving student learning," he told his members in a CERC newsletter. Indeed, the legislative analysis survey revealed that one-third of the districts predicted the new monies would have gone into teachers' salaries had they been distributed as general, not categorical and non-negotiable, aid.

Still, primary-grade teachers believe the class-size reduction move was a good bargain for them and their children. "This is the best year I have ever had in teaching," said Judy Hill, an experienced first-grade teacher in the tiny Surprise Valley district in northeastern California. She has taught classes as large as 32 students in the first grade—"not a rewarding experience"—and finds that the small classes allow her "to know where every kid is." And David Pribyl at Blackford School willingly shifted classes into the library and former prep rooms for teachers because the reduction in class size is a particular advantage for his largely limited-English enrollment. "I always thought the small classes would be wonderful," he said, "but I had no hope it would happen."

For Further Information

"Class Size Reduction," Legislative Analyst's Office, 925 L St., Suite 1000, Sacramento, CA 95814; 916-445-2375. http://www.lao.ca.gov/class_size_297.html.

CERC Newsletter, 9, no. 2 (Fall/Winter 1996); School of Education at the University of California at Riverside, 1362 Sproul Hall, Riverside, CA 92521; 909-787-3026. http://www.education.ucr.edu/CERC.

"Is Less More? Exploring California's New Class Size Reduction Initiative," California Education Policy Seminar and the California State University Institute for Education Reform, CSU, 6000 J St., Sacramento, CA 95819-6018; 916-278-4600.

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The Harvard Education Letter

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Making the Connection Between Families and Schools

Parents can tell us a lot about what makes a good family-school connection

BY KAREN MAPP

Researchers and practitioners have long acknowledged a strong link between parent involvement and children's success in school. Studies conducted over the last 30 years have identified a relationship between parent involvement and increased student achievement, enhanced self-esteem, improved behavior, and better school attendance.

But despite this evidence, family involvement in schools throughout the United States remains minimal. In an attempt to explain this, researchers including James Comer, Joyce Epstein, and Sara Lawrence-Lightfoot have identified some of the factors that contribute to the gap between parents and schools that can be difficult to bridge. (In this article, "parent" refers to any adult caretaker.)

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Factors such as cultural, racial, and economic differences between school staff and parents can lead to incorrect assumptions and stereotyping on both sides. Parents are often apprehensive about making contact with school staff: They may feel that they have no business talking to teachers whom they consider the "education experts." Other obstacles, such as work schedules, inadequate child care, and lack of transportation can also limit parents' active involvement in schools.

> ***School activities should be entertaining for parents, but the focus should be on the children.***

Another barrier is school staffs' failure to recognize or legitimize parents' role in their children's education. Principals and teachers may claim interest in parental participation, but, in fact, grant parents only limited roles at the school and give signals that their opinions and feedback are unwelcome. Also, school staff are rarely trained how to collaborate with parents (see "Teaching Teachers to Work with Families," p. 7).

Parents Have Answers

What can schools do to overcome these barriers? What ingredients lead to successful partnerships between families and school staff? Getting answers to these questions was what motivated me to study the family involvement program at the Patrick O'Hearn Elementary School in Boston, an urban public school serving a racially and socioeconomically diverse population of approximately 215 students. Approximately 90 percent of O'Hearn parents are involved in one or more of the school's family activities.

I interviewed 20 parents from the O'Hearn, asking them to describe how they are involved in their children's education and, more importantly, *why* they are involved. I wanted to know more about the motivations, incentives, expectations, and apprehensions influencing these parents' participation in the school community. I decided to study families from economically distressed circumstances, since much of the recent national focus has been on increasing the involvement of parents

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in urban and low-income communities.

Two themes emerged from these parents' stories that may shed some light on how schools can develop meaningful connections with families. First, parents said that staff at the O'Hearn use a well-executed process of what I call "joining" with families. Members of the O'Hearn community—parent volunteers, the principal, teachers, the secretary, even the custodian—connect with parents through activities and programs specifically designed to welcome families into the school.

Second, staff members work hard to "honor" families, a process of validating any type of involvement or contribution parents can make, whether it be reading to a child at home, donating a book to the school library, or being active in school governance.

Feeling Welcome

When parents at the O'Hearn were asked to talk about the influences on their involvement, they spoke about a bond they had developed with the school staff. They described how staff created an environment and culture in which families truly felt they had joined the school community. They said they felt like "members of the O'Hearn Family," which motivated them to participate in various home and school activities, such as the home reading program and helping teachers in the classroom.

"The secretary is always friendly and helpful when you call," said one parent who has two children at the O'Hearn. Another said, "The principal knows all of my kids and family members by name, and he's always accessible and visible." "The janitor sings Happy Birthday to all of the kids and to the parents," added a third.

The parents I talked with were particularly impressed with the O'Hearn's Family Outreach Program, where parent volunteers visit new families to welcome them and answer questions. There is also a family center where parents can go to enjoy refreshments and conversations with other parents and attend workshops and forums on educational topics. Parents also recalled being invited to a "new family breakfast," sponsored by the Outreach Program. One parent describes her experience:

> *They had a new parent breakfast, which they have every year, and I managed to drag myself there with my screaming child. He was really good there and I met many of the parents that I see all of the time now, and everybody was very friendly. That started the interest for me, to see how involved everyone was. I felt like it was a "welcoming-into-the-school kind of thing," and that made me feel like, "look at these people, doing all this for the parents." So I try to do whatever I can whenever they have parties, make food or something, I do something to help out.*

Parents identify these "joining" activities as the beginning steps in developing a trusting relationship between their families and the school. O'Hearn's principal, Bill Henderson, describes the school's philosophy:

> *There are three principles that we follow here at the school that I think are key in planning family activities. You want to have some food, have some fun, and always have a focus on the children. We do these things to build good will and trust, to make families feel welcome here. The activities should be interactive or entertaining for parents, and the focus should always be on the children.*

At the O'Hearn, joining with families is a part of the school mission that involves all members of the school community and is carried out through a deliberate, multifaceted approach. The purposeful implementation of the joining process, where staff have turned the theories and philosophies of joining into everyday practice, appear to be key to its success.

Honoring Parents

Parents described how members of the O'Hearn community encouraged, affirmed, and validated their efforts to be involved in their children's education. One parent said this made her feel "honored" for her contributions, which motivated her to get involved in activities that she had never planned on being part of. She said:

> *If they didn't encourage me to do volunteering and other things, the type of person I am, I probably wouldn't. My life is busy enough. I have a lot of things to do; my daughters' education is very important to me, but I wouldn't go bust the door down to be involved. It's so nice there. I feel like I can go to the O'Hearn any time and ask anybody any questions and get good feedback. It's given me the connection with the [school] community, because they opened up and gave me the opportunity to come in and it's a nice feeling. I feel like as my kids get older, I will be volunteering more because I feel you've gotta give back. They have given a lot just by opening up the doors to parents.*

Parents at the O'Hearn said that they are validated for all levels of participation, from donating an item to the annual yard sale to being a guest reader during the "Read-aloud" days that are regularly scheduled at the school. Parents said that they are encouraged and supported by the principal and other members of the school staff to work on various committees and projects, and are often paired with more experienced parent volunteers. One parent, a single mom with one child at the O'Hearn, said:

> *The first time I went to the school for the open house, they had it all set up, all these bulletin boards where you could sign up to do things, anything. I asked, "It can be any little thing?" and they said "Yes." They encouraged me. They said, "You're not obligated. Just sign your name if you think you might be interested." And that's what I did; I signed my name. They were really encouraging. And then they did call!*

This parent's comments reveal that allowing her to connect to the school community in her own way and on her terms ("It can be any little thing?") created an atmosphere of recognition and inclusion that were important elements in cultivating her involvement.

Parents also feel honored when they sense that the school staff respects their opinions. Many parents' statements echoed Sharon William's (see "Family Involvement in Schools," p. 3) in de-

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scribing how their opinions and concerns are heard and taken seriously. Parents spoke of feeling empowered by this recognition of their thoughts and ideas. Seeing other parents in positions of authority—parents visiting families through the Outreach Program, parents chairing and facilitating committee meetings—also inspired others to try new ways of being involved.

What Can Schools Do?

These parents' stories suggest that joining and honoring are important components in creating links between families and school personnel. School staff looking to increase family involvement at their schools may want to engage in a dialogue with parents to answer some important questions, such as: What do parents experience when they walk into our school building? Are they greeted in a friendly, welcoming manner? Who or what is their first point of contact when they enter our building? How are parents contacted about school events; do we rely on flyers or are families contacted personally? Are parents truly involved in school decision-making? Needs and circumstances differ among schools, but most can, nevertheless, make changes and improvements to the school environment to help make parents feel more welcome, validated, and respected.

For parents, the personal connections with school staff seem to be what makes the difference. My hope is that these findings will be useful for teachers, policymakers, school officials, and other parents attempting to design and implement parental involvement initiatives.

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Family Involvement in Schools: It Makes a Big Difference, but Remains Rare

BY LEON LYNN

Sharon Williams considers herself a very lucky parent.

Her three children attend Boston's Patrick O'Hearn Elementary School, where parent involvement is a high priority. The principal and staff devote time and energy to encouraging parents to play an active role in the school, everywhere from the classroom to the school management council.

"Parents have a real voice here," says Williams, a single parent. "If you have a concern, they will listen. If there's something the parents really feel we want to change, we can usually work with the staff and get it changed."

But satisfied as she is, Williams does have a problem. Next year her oldest daughter will have to leave the O'Hearn to begin middle school.

"I'm looking at the middle schools now, and I don't see one out there with that same commitment to the parents," Williams says. "I need a school for my daughter that has that. I've had that at O'Hearn, and I guess you could say they spoiled me."

Williams' predicament illustrates the good and bad news of parent involvement in America's schools.

First the good news: Now more than ever, educators and policymakers understand the importance of parent involvement. Teachers, school board members, principals, and superintendents are trying to build strong, reciprocal relationships between schools and the families they serve. Some schools have truly invited parents to be their educational partners, welcoming their contributions, giving them a real say in how the school runs, and providing them with information and training to make the most of that opportunity.

A National Effort

This jibes with a new national emphasis on parent involvement. In 1994, Congress began requiring all schools that receive federal Title I money to develop a plan "that outlines how parents, the entire school staff and students will share the responsibility for improved student achievement, and the means by which the school and parents will build and develop a partnership to help children achieve the state's high standards." That same year Congress amended Goals 2000, the national education goals, to demand that "every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional and academic growth of children."

What's more, a growing body of research shows that schools with strong family-involvement programs enjoy improved student performance and attendance, and fewer discipline problems. Even in schools where large shares of the students are poor—the type of school where parent involvement is generally lower—research finds that well-conceived, well-executed parent-involvement programs have positively influenced most families' attitudes toward their schools.

Now the bad news. Schools like the O'Hearn—where parents are true partners in their children's schooling—remain rare. As Sharon Williams is discovering, the level of parent involvement nurtured at the O'Hearn can be hard to find elsewhere. A national study of eighth-graders in 1990 found that half their parents hadn't attended a single school meeting during that academic year. And another study released that year by Joyce Epstein, director of the Center on School, Family, and Community Partnerships at Johns Hopkins University, found that most parents never participate directly in activities at their children's schools.

Despite all the recent rhetoric and

Six Types of School-Family-Community Involvement

Joyce Epstein, director of the Center on School, Family, and Community Partnerships at Johns Hopkins University, has identified six important types of cooperation between families, schools, and other community organizations. They are summarized here.

1. **Parenting** — Families must provide for the health and safety of children, and maintain a home environment that encourages learning and good behavior in school. Schools provide training and information to help families understand their children's development and how to support the changes they undergo.
2. **Communicating** — Schools must reach out to families with information about school programs and student progress. This includes the traditional phone calls, report cards, and parent conferences, as well as new information on topics such as school choice and making the transition from elementary school to higher grades. Communication must be in forms that families find understandable and useful—for example, schools can use translators to reach parents who don't speak English well—and it must be two-way, with educators paying attention to the concerns and needs of families.
3. **Volunteering** — Parents can make significant contributions to the environment and functions of a school. Schools can get the most out of this process by creating flexible schedules, so more parents can participate, and by working to match the talents and interests of parents to the needs of students, teachers, and administrators.
4. **Learning at Home** — With the guidance and support of teachers, family members can supervise and assist their children at home with homework assignments and other school-related activities.
5. **Decision-making** — Schools can give parents meaningful roles in the school decision-making process, and provide parents with training and information so they can make the most of those opportunities. This opportunity should be open to all segments of the community, not just people who have the most time and energy to spend on school affairs.
6. **Collaboration with the Community** — Schools can help families gain access to support services offered by other agencies, such as healthcare, cultural events, tutoring services, and after-school child-care programs. They also can help families and community groups provide services to the community, such as recycling programs and food pantries.

studies supporting increased parent involvement, many schools are still dominated by cultures that give parents only marginal roles to play, such as baking cookies for fundraisers or signing report cards. Parents are discouraged—sometimes intentionally, sometimes unintentionally—from playing any greater role in learning activities or governance issues. Teachers and administrators often believe that most parents can't or won't play a more active role in school life, an assumption rarely challenged by training and certification programs for educators. Whatever parent-involvement mechanisms do exist at these schools, such as PTAs, often lack real influence over school policy, and may not be readily accessible to less-advantaged families.

Even in schools that are making good-faith efforts to build partnerships with parents, many educators report that contact with parents remains frustratingly sparse, and that their efforts have borne little fruit. This is especially true in schools serving lower-income communities.

Still, many educators and policymakers remain optimistic. Meaningful parent involvement may be rare, they say, but where it does exist it benefits teachers, families, and students alike. And thanks to initiatives by school districts, government agencies, and other groups, notably educator networks, more schools are learning about the importance of parent involvement and are learning better ways to nurture it.

A Two-Way Street

Before the 1960s, relationships between parents and schools were "unidirectional," says Elena Lopez, associate director of the Harvard Family Research Project. Most families were expected to deliver their children to the schoolhouse door and then go home while educators did their jobs. When parents were asked to get involved, the focus was usually very narrow. For example, they might be invited to work in the school office or to raise money through bake sales, Lopez says.

By the mid-1960s, however, challenges to these habits and traditions were growing, due in part to James Coleman's influential study, *Equality of Educational Opportunity*. Coleman concluded that a student's home environment had more impact on test scores than any other factor, even school curriculum or student body characteristics. As a result, policymakers and advocates began to think of parent involvement as more of a two-way street. Not only should parents help the school, they realized, but the school should help make children's home environments more supportive and more conducive to learning.

Since the 1960s, the concept of family involvement—what it means for parents and other family members to be "involved" in their schools, and for schools to be involved in the home lives of their students—has continued to evolve. Many educators today embrace a "partnership" model of involvement, centered on the belief that in order to serve and support families, schools must work hard to create and sustain communication with parents, must listen carefully to what parents have to say, and must be willing to welcome parents into the school, not just as cookie-bakers but as valued, empowered partners in the educational process. This model is perhaps best described by Joyce Epstein (see box).

From Parents to Partners

Researcher Karen Mapp believes that the Patrick O'Hearn School has been successful, in part, because a wide variety of involvement options are offered to parents. Mapp is conducting research at the Harvard Graduate School of Education on successful parent-involvement programs in schools serving disadvantaged families (see "Making the Connection Between Families and Schools," p. 1).

"Sometimes all it takes is that first indication that the school wants you to be involved," she says. "It can start with something as simple as planting tulips in front of the building, or reading a story to children. That kind of thing gets parents acclimated. The school is saying, 'OK, let's ease into this relationship,' and then through exposure to other parents involved in other things, some parents will get more involved in governance or volunteering."

Parents have a lot to offer schools too. They can motivate their children to work harder. They can become educational resources. For example, an immigrant parent could visit their child's class and describe life in their native country, therefore helping a teacher provide a living social studies lesson. And parents can recruit other parents.

Sharon Williams was really nervous when her oldest child enrolled in the O'Hearn school. "I didn't know anything about the Boston Public Schools," she says. "When I was a kid I went to a school where I sat in the classroom and kept my mouth shut and hoped they didn't hit me with that ruler. You did as you were told, you had no say." Williams feared that the O'Hearn would be that way too. "When I first went there I felt like I was back in first grade again," she says. "I thought the school had all the power."

Bringing in new families has to be a constant effort if the program is to remain stable.

That began to change soon after she arrived. One of her daughter's teachers suggested that she visit the parent center at the school. "I went in and started talking to some of the other parents, and I realized that they had a say in the school," she says. Soon she attended her first parents' meeting, and shortly after that "I got a call from another parent, a neighbor who lived down the street, and she told me about some of the other things happening at the school, and asked me if I wanted to get involved. I was very impressed by that. I was brand new and they were already inviting me in."

By the following year, Williams herself was visiting the homes of new O'Hearn families, inviting them to get involved with the school. "I got a few parents to come," she says. "I was repeating the cycle. It has to be a constant effort, bringing in the new families, if the program is going to remain stable.

"We try to tell the new parents that there are a lot of different ways they can get involved in the school," Williams says. "Sometimes you find a parent who says they don't have time, or they can't make it to the school, and we tell them there are still things they can do. They can make phone calls. We can send home a package of fabric and thread, and they can sew costumes for a school show. Whatever little part they can play, we want them to play it. And once you get them doing one thing, then they find there's something else they can do, something they feel comfortable moving into."

Resources Are Available

As interest in parent involvement continues to grow among educators, a number of different mechanisms have developed to help spread the word and support schools' efforts. Funding from a variety of sources—such as federal Title I money and grants from states, foundations, and research groups—supports efforts to build partnerships between schools and the families they serve.

A number of networks and educator-driven initiatives also support parent-involvement efforts. One example is the National Network of Partnership-2000 Schools at Johns Hopkins, which Joyce Epstein directs. The network, which now includes more than 600 schools, helps members learn about various types of family involvement and helps schools apply them to their particular situations. It conducts training sessions for teachers and other educators, and offers information and support to schools via telephone, newsletters, e-mail and a World Wide Web site.

Researchers with the network are also studying the progress of member schools, so that the members will be better able to evaluate their progress and share their findings. "That's one way our center can be of assistance, cataloguing this information and sharing it," Epstein says.

The network calls on schools to engage in a lot of hard work building relations with families and the community. But the results can be impressive: In Baltimore, for example, a recent analysis of 39 lower-income schools working with the National Network of Partnership-2000 Schools suggests that schools with stronger ties to their families and community boosted their attendance rates and student achievement in reading and writing.

"This doesn't mean they turned from poor schools to excellent schools overnight," Epstein says, but it does suggest that stronger partnerships contribute to student success in schools. And, she adds, the research findings help disprove the "erroneous notion that poor schools can't or don't build these kinds of partnerships or make this kind of progress."

Educators and policymakers hope that these efforts will help more schools find ways to build stronger parent involvement. That's something Sharon Williams, the parent from Patrick O'Hearn Elementary School, hopes will happen sooner rather than later. She still needs to find a new school for her daughter that puts as much empahsis on parent involvement as the O'Hearn does. And she knows that other parents would reap the benefits of such partnerships as well.

"I need a school where that's already in place, and I can find my spot in it," she says. "I was lucky to get into O'Hearn, where the process was already in motion. To start from scratch, that takes a lot of energy, and a lot of parents don't have that much energy left after taking care of their families."

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Family Education Network, 20 Park Plaza, Suite 1215, Boston, MA 02116; 617-542-6500. Web site: http://familyeducation.com.

The National Network of Partnership-2000 Schools, Johns Hopkins University, 3505 N. Charles Street, Baltimore, MD 21218; 410-516-8818. E-mail: p2000@csos.jhu.edu. Web site: http://www.csos.jhu.edu/p2000.

Partnership for Family Involvement in Education, U.S. Department of Education, 600 Independence Avenue SW, Washington, DC 20202-8173. Web site: http://www.ed.gov/PFIE. To receive a copy of *A Compact for Learning: An Action Handbook for School-Family-Community Partnerships,* call 800-USA-LEARN.

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Leon Lynn is an education writer living in Milwaukee, WI.

A School Called Victory: The Ongoing Pursuit of Parent Involvement

By Leon Lynn

When Estell Sprewer first became principal of Milwaukee's Victory Elementary School six years ago, the parent-involvement story was the same depressing one that a lot of urban educators tell.

More than half of the school's parents never attended conferences with their children's teachers. Among those who did, African Americans were underrepresented: They comprised 49 percent of the student body during the fall of the 1992-93 school year, for example, but took part in only 17 percent of the conferences that did occur.

When Sprewer asked for parents to serve on a school-based management council, the same old faces from the closely knit, disproportionately white and middle-class PTA stepped forward. "We were not hearing the voices of a large part of our population," she says. "We needed to broaden that scope."

Victory is making progress. These days, visitors are greeted by a cheery blue-and-white banner above the front door that reads: "Welcome Students and Parents." And inside they will find Sprewer, who knows that building parent involvement means more than just hanging a friendly sign.

> ***Building parent involvement means more than just hanging a friendly sign.***

A new procedure for conducting parent conferences by telephone, for example, has made it easier for parents who live far from the school to take part. Last fall, 58 percent of all parents took part in conferences, 27 percent of whom were African Americans.

The school has hired a parent coordinator, who has spearheaded efforts to get parents into the building as volunteers and guest speakers. A corner of the teacher's lounge has been designated as a "parent center," where parents can relax over coffee and check out books, videos, and other educational materials. And Victory has joined several programs that have brought new funding and expertise on parent involvement into the school, including the National Network of Partnership-2000 Schools based at Johns Hopkins.

There have been some setbacks, of course, including resistance from members of the existing PTA to the potential shakeup of the school's status quo. And despite Victory's efforts, many parents still are not being reached. When the school sent a survey home with students this spring to determine parents' level of involvement with the school, for example, fewer than a third of the forms were returned.

"We're not where I'd like us to be, where I think we need to be in terms of involving the parents," says Sprewer. "But we are definitely moving."

Broader Parent Support

Victory is home to an unusual educational program. Its 460 K–5 students do not receive letter grades. Instead, teachers write narrative reports on every child, assessing how well they are meeting the school's educational goals. This makes parent involvement all the more critical, Sprewer says. "Parents need to understand a system of assessment that is very different from the one they remember from their own school days." And when students leave Victory, the staff must "translate" those assessments into letter grades in order to conform to Milwaukee school district standards. Sprewer says, "That's a process that requires a lot of communication with the families."

The no-grades program draws students to Victory from all over the Milwaukee Public Schools. About 335 students, 73 percent, were bused to the school during the 1996-97 school year. "Some of them were on their corners at 6:50 in the morning to make it here for the 8:05 starting time," Sprewer says. Thus, even though the neighborhood around Victory is mostly white, only 38 percent of Victory's students last year were classified as white. About 72 percent of students qualified for free or reduced-price meals.

Historically, Victory has enjoyed good support from the families that live nearby, Sprewer says. For example, the PTA "raises a lot of money for us," she says. "I love those parents. They're terrific. I'm proud of them for coming out for those meetings every month. But they only reflect the population of children in the immediate neighborhood."

Two years ago Sprewer invited Regina Hull-Jackson, an African American parent with two children enrolled in the school, to become Victory's parent coordinator. Hull-Jackson agreed to take the job in exchange for a small stipend. "The nucleus of the PTA was not happy about the decision to bring someone else in," Sprewer recalls. "They asked me, 'Why is she here? Aren't we doing a good job?' I tried to explain to them that I needed to look at the total school, that I saw a need for another means of reaching out."

New Directions

Hull-Jackson is an energetic woman with piercing eyes and a positively electric smile. Since becoming parent coordinator she has begun attending PTA meetings in hopes of building better relations with members. "There's still some tension there, but I do believe things are coming along," she says.

However, when Hull-Jackson suggested that the PTA hold some meetings in neighborhoods far from the school so that parents who had transportation problems would be able to attend more easily, the PTA flatly turned her down. "They didn't think that was a very good idea," she says diplomatically.

Some of Hull-Jackson's other initiatives have borne considerably more fruit. She has organized "block parents," for example, who keep in touch with families living far from the school. She helps parents obtain permission to ride school buses to conferences and other on-campus activities, and she has organized car pools for students who live too close to qualify for busing but still find it difficult to walk every day. All of these activities help make students and their families feel welcome at Victory, which is the first step to getting them more involved, she says. "We're not waiting for them to come to us. We're going to them. We're asking them to come into the building, to meet with the teachers, to share their talents and their interests."

More parents are indeed coming into the building, says Diane Edwards, a teacher at Victory who has played a big role in the school's efforts to boost parent involvement. She credits Hull-Jackson with helping them feel welcome and respected. "Since Regina was hired, I think the biggest difference is that parents feel comfortable in the school," she says. "Now the parents feel this is their school, too, that they belong here. As they get more accustomed to being here, they'll become ready to do more. It's not an overnight process. But we're seeing some improvement."

Partnership-2000

Edwards and Hull-Jackson attended a statewide meeting of the National Network of Partnership-2000 schools last year. Sprewer says she decided to send a team to the meeting after reading about Joyce Epstein, the network's director, and the six types of school, family, and community involvement Epstein has identified (see p. 4). "I thought her approach aligned itself well with our thinking," she says.

Getting involved with Partnership-2000 made one difference right away: Victory received another $2,500 in federal funds. The school used $500 to buy materials for workshops and other projects. The rest was added to Hull-Jackson's salary.

While the money helps, Edwards says, the real benefit of joining the network is the assistance it provides. Network staff offers advice via telephone, e-mail, and training seminars. The network also supplies Victory with manuals describing types of parent involvement and offering suggestions for communicating with parents. "I think the network's philosophy puts things in a structure to present to parents and teachers," Edwards says. "And it gives us good ideas on how to proceed."

Sprewer agrees. "When we meet with staff to discuss how they are trying to build parent involvement in the classroom, we are using Epstein's six goals to frame the conversation," she says. "And we are trying to make parent involvement the responsibility of everyone, not just the team."

The Road Ahead

Clearly, Victory has a lot of challenges yet to meet. African American families still take part in far fewer parent-teacher conferences than white parents do, and more than 40 percent of all parents in the school still don't take part at all. And a new program of sending students home with information and a form for parents to sign has proven somewhat disappointing. "We're getting a lot of forms back unsigned," Sprewer says. "It's clear that a lot of parents aren't being reached that way. But we'll continue to do it. We want a stable mechanism like that in place. And whatever reaches even one parent is worth continuing."

For Further Information

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Teaching Teachers to Work with Families

A new study by the Harvard Family Research Project recommends substantial changes in how teachers are trained and certified

BY LEON LYNN

At the heart of any successful parent-involvement program are teachers who are not only committed to building family and school relationships, but who also have the skills and knowledge to do it well. To succeed, a teacher must be able to make good use of families' expertise and resources, at the same time reaching out to families to support them. All the while, the teacher must also meet the day-to-day challenges of the classroom.

To succeed at building parent involvement, teachers need professional development experiences that prepare them for the task, just as they need preparation in subject matter and teaching skills. But a new study conducted by the Harvard Family Research Project, "New Skills for New Schools: Preparing Teachers for Family Involvement," finds that few education and certification programs for teachers address family involvement in substantial ways.

Lack of Specifics

Family Research Project researchers reviewed teacher-certification requirements for all 50 states and the District of Columbia. Only 22 even mentioned family involvement. "And even when it was mentioned, often it wasn't defined in clear and precise terms," says Elena Lopez, the Family Research Project's associate director. Phrases such as "parent involvement," "home-school relations," and "working with parents" often appeared without any explanation or examples of what they meant, she says. "The conclusion was that these issues were not a high priority in state certification."

When researchers examined 60 teacher-education programs in the 22 states that did mention family involvement, they found little substantial coursework. For example, while 88 percent of the courses that mentioned family involvement dealt with parent-teacher conferences, and 80 percent covered parents teaching children at home, fewer than 25 percent covered communicating with parents or understanding parents and families. Likewise, more than 85 percent of these courses used lectures, discussions, or required readings to cover family-involvement issues, while less than 25 percent gave students an opportunity to work directly with parents or even to hear guest speakers.

Exemplary Programs

Researchers at the Harvard Family Research Project did identify nine teacher-education programs that focused on family involvement as an important concept, engaged students in hands-on activities, and promoted a broad concept of family involvement that recognized the value of home-school collaboration (see box).

At Northern Arizona University in Flagstaff, for example, some teacher trainees take part in a "cultural immersion" program: They live on a Navajo reservation for the academic year, attending cultural events in the community and school board meetings. Another program, at the University of Wisconsin-Madison, sends graduate students into ethnically diverse neighborhood schools for 15 hours each week, where they tutor individual students and/or lead classroom activities. And at the University of Houston at Clear Lake, teacher-education students teach classes in parenting, household finance, English as a Second Language, and other subjects to local parents.

Recommendations

To help teacher-education programs develop a stronger emphasis on parent involvement, the Harvard Family Research Project suggests the following changes in both policy and practice:

- The project recommends developing a national infrastructure to support teacher preparation for family involvement. "There is a lot of information out there now, but I think it's scattered and fragmented," Lopez says. "Everybody is sort of reinventing the wheel. What we need is some kind of systematic network." This network could work with professional organizations to develop standards and disseminate information to teacher-education programs.
- Research is needed on teachers who have taken part in family-involvement training. Lopez says, "We need to find out what teachers are actually learning from these courses, and how they are applying what they learn in their own work, and whether parents notice any difference." Research also can help define what specific steps schools can take to support family-involvement efforts by their teachers. Ultimately, research also needs to examine how teacher preparation affects student achievement and behavior.
- States should establish clear, specific guidelines for preparing teachers to work with families. Lopez cites California as a state that has developed comprehensive and understandable requirements for teacher trainees—for example, they must demonstrate knowledge of how cultural differences affect children, families, and communities—while leaving schools free to decide how to meet the requirements.
- Family-involvement training needs to be available to teachers working with students of all ages. Right now, early-childhood educators receive more training than teachers in elementary or secondary schools, Lopez says, while studies show that family involvement in schools declines with each successive grade.
- Parent-involvement training can be improved by encouraging experts in different fields and specialties to collaborate. For example, professors specializing in different aspects of education could teach classes jointly, Lopez says. Education experts also could work with teachers from other fields, such as public health and social work, to offer teacher trainees a wealth of experience from different perspectives.
- Family involvement should be integrated throughout teacher education, not presented as a separate component to be handled in separate classes and assignments. This will help teacher trainees, who often feel overloaded by the demands placed on them, to focus on these issues without having to take additional courses.
- Professional organizations should make family involvement a priority. It will take consistent messages about the importance of family involvement, coming from many sources, to help overcome the resistance of many teachers and administrators. Professional organizations can play a critical role in establishing standards and helping develop innovative training programs.
- Teachers also will need substantial in-service training on family involvement. Professional development must be ongoing so that teachers can maintain and adapt their knowledge and skills. In-service training also can help engender a school culture that values strong family involvement, encouraging new teachers at the school to follow the examples of their more experienced colleagues.
- Teacher-education programs need to offer more direct field experience working with families. This allows teacher trainees to evaluate the theories they are learning in real-world settings. Collaborations between universities and nearby schools, for example, could give new teachers a chance to work with families and evaluate that experience in an academic setting.

Lopez hopes the findings in the Family Research Project report will help educators and policymakers revamp professional development, so that teachers get the kind of training and experience they need to forge stronger relationships with parents. The findings also can supply schools and school districts with ideas for improving their current relations with parents, she says.

For Further Information:

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Programs with Exemplary Parent Involvement Curriculum

Trinity College, Education Dept.
208 Colchester Ave.
Burlington, VT 05401
802-658-0337, ext. 250

Rural Special Education Project
Northern Arizona University
Flagstaff, AZ 86011
520-523-3221

Teach for Diversity Program
School of Education
University of Wisconsin
550 Lincoln Dr.
Madison, WI 53700
608-263-7466

Early Childhood Education Program
Peabody College, Vanderbilt University
Nashville, TN 37240
615-322-1800

The Parent Power Project
Dept. of Counseling and Special Education
California State University, Fresno
5241 N. Maple Ave
Fresno, CA 93740
209-278-0340

Alternative Teacher Education Program
University of Georgia
Athens, GA 30602
706-542-4244

Funds of Knowledge Project
Dept. of Language, Reading and Culture
University of Arizona
Tucson, AZ 85721
520-621-1311

Parent Education Model
School of Education
University of Houston at Clear Lake
2700 Bay Area Blvd.
Houston, TX 77058
281-283-3580

Urban Teacher Education Program
Indiana University Northwest
3400 Broadway
Gary, IN 46408
219-980-6510

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Technology Works Best When It Serves Clear Educational Goals

Putting learning first is key to using technology effectively

BY DONNA HARRINGTON-LUEKER

As a physics and engineering teacher at San Francisco's Thurgood Marshall Academic High School, Dennis Frezzo uses computer technology with the precision of a strategic strike. Last spring, his students laid cable to link computers for an upcoming trade show at the San Jose Convention Center—a real-world task that put students' fledgling engineering skills to immediate use. And this year, when students build electrified go-carts, Frezzo expects they'll use computer spreadsheets to track costs, special software programs to help with design, and simulation programs to "check the shocks and springs" so they don't have to build their go-carts 10 different times.

"I have kids use computers the same way engineers use computers," says Frezzo, a former electrical engineer with a keen commitment to Thurgood Marshall's philosophy of using project-based learning to boost achievement among its students.

Several hours north, in Mendocino, CA, School Superintendent Ken Matheson has a similarly clear vision about the role of technology in learning. "It's our curriculum that drives the way we use technology," says Matheson of the small rural district's commitment to reform first and technology second. Over the last decade, Mendocino has made widescale changes in teaching and learning. Real-world projects and activities that encourage students to explore on their own drive the curriculum. Students have begun to build portfolios of their work in the early grades, and teachers have been granted additional preparation time to work with each other on units of instruction.

And technology? "Once you establish your goals, your standards, what you believe in [as a school district], then you use technology to accomplish that," says Matheson.

This year, for example, Mendocino's students will collect watershed data in their community—a project that reflects the school district's emphasis on learning through projects done in the community. With the help of a grant from the Annenberg Foundation, students will then use videoconferencing equipment and an Internet connection to share their data with students working on similar projects in three other rural school districts.

A Billion-Dollar Enterprise

Like other schools and school districts across the nation, students and teachers at Thurgood Marshall and in Mendocino are on the front lines of the billion-dollar computer revolution. According to Denver-based *Quality Education Data*, U.S. schools are expected to spend $5.2 billion on technology this year—more than double the $2.5 billion they spent just five years earlier. This year, too, thanks to the passage of the federal Telecommunications Act, which promises potentially steep discounts on Internet access to schools and libraries, many schools expect to add on-line technologies to their current technology mix.

But what guidelines does research offer for making the most of those dollars? What research should school technology planners be familiar with? Schools have pushed to integrate technology into the curriculum for more than a decade, and the number of computers in schools has risen dramatically.

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At the same time, though, researchers acknowledge that the way students and teachers use computers is often rudimentary, and significant gains in student achievement have not materialized. Until recently, researchers say, studies on the effectiveness of school technology have focused on simply comparing the new technologies with traditional instruction rather than looking in depth at such things as the effect of classroom culture on technology use or the obstacles to teachers using technology effectively.

Increasingly, however, many researchers argue that Thurgood Marshall's project-based curricula and Mendocino's commitment to linking computers with widescale school reform are among the most promising ways to use technology. And they support their argument with studies of high-performing districts that have made substantial investments in technology and put that technology in the service of a specific educational goal or agenda.

"It isn't just a question of figuring out how to put technology into classrooms," says Martha Stone Wiske, codirector of the Educational Technology Center (ETC) at Harvard. "It's a question of clarifying educational goals, reconceptualizing how you orchestrate teaching and learning activities, and altering the way you assess students and teachers."

Computers and Constructivism

According to Wiske and other researchers, one way schools can use technology effectively is to support the kinds of changes that many school reformers have been urging for the last decade. Generally, Wiske says, these reforms reflect constructivist theories of learning, which urge schools to distinguish between instruction that emphasizes the transmission of information and instruction that is designed to support students' efforts to "construct" their own understanding.

One report explaining the link between these kinds of reforms and technology is the 1993 study, *Using Technology to Support Education Reform.* Funded by the federal Office of Educational Research and Improvement (OERI), the report surveyed research on school technology and cognitive psychology, and concluded that if a school system's goal is to develop advanced skills in thinking, analyzing, synthesizing, and experimenting, then a wide range of computer technologies can support that effort.

> ***Linking computers with widescale reform is among the most promising ways to use technology.***

Using electronic databases, for example, students can retrieve and manipulate data, as well as test relationships between variables in ways that would be difficult without technology. Two other computer applications—microworlds and microcomputer-based laboratories—have also proved to be powerful tools in mathematics, the physical sciences, and social studies, the report says. In microcomputer-based laboratories, for example, students can use equipment called probeware to measure physical phenomena such as sound, light, and temperature in the same way scientists would. And in microworlds, students become immersed in complex computer simulations that ask them to solve problems, gather information, and make inferences.

Having students use word-processing programs to revise their essays or spreadsheet applications to analyze data they have collected also promotes high-level thinking skills, as does giving them access to interactive networks, such as Kids Network or FrEdMail, that encourage them to collaborate.

Another study, the Rand Corporation's *Fostering the Use of Educational Technology: Elements of a National Strategy,* surveyed five schools that had invested heavily in both technology and school reform. In each case, technology wasn't something added to the margins of school life. Rather, each school had made significant changes in curriculum and instruction before it introduced technology, and most had made substantial changes in the way the school—and the school day—was organized.

Rand Corporation researchers Thomas K. Glennan and Arthur Melmed studied one school, Blackstock Junior High School in Port Huenema, CA, that developed so-called "smart classrooms"—classrooms devoted to a specific subject and outfitted with leading-edge technology—and allowed teachers to take as much as a year off to prepare the new curriculum for these classes. Other schools decided to emphasize individual research and exploration rather than textbooks in their curricula and lengthened their class periods to allow for such investigations. In every case, technology became another tool students could use in their explorations.

Union City's Success

One school district that has linked technology with widescale reform is Union City, NJ. Located just across the Hudson River from New York City, Union City serves a largely immigrant and transient population. Nearly 75 percent of the district's students do not speak English at home; the same percentage come from low-income families.

In 1989, in response to a proposed state takeover of the district, the failing school system drastically overhauled its approach to instruction. "Our problem was typical of all urban school systems. The mode of teaching and learning that we were using was faulty," Fred Carrigg, the district's executive director of academic programs, told participants at a Harvard University conference on leadership and the new technologies this past summer.

Specifically, Carrigg said, Union City relied on basal readers and textbooks, and emphasized memorization, basic skills, and traditional 50-minute periods. With limited resources, Union City's schools had few computers, all of which were located in computer laboratories. Teachers had few opportunities for professional development and central office administrators made decisions about curriculum and instruc-

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tion and expected schools to follow their directives.

Over the next several years, that approach to instruction changed. Instead of basal readers, teachers began to use a whole-language approach to reading that emphasized real literature and writing instead of drill-and-practice exercises. They also started working with a new curriculum that relied on research projects rather than textbooks and encouraged students of differing abilities to work together on projects. To accommodate the new teaching strategies, schools adopted block scheduling that provided students with longer periods to work on projects. Teachers and principals also started making their own decisions about how to spend school funds.

"We decided to focus on teaching students how to learn, and we made that the major goal in every grade," said Carrigg.

Three years later, the district launched a technology initiative that complemented these reforms. To make it easier for teachers to integrate technology into their lessons, Union City began installing computers in classrooms rather than in separate laboratories. To encourage middle and high school teachers to collaborate on projects, the district arranged for teachers to have home computers. It also gave them their own Internet accounts so that teachers could confer on-line. As part of their research-based curriculum, students began using on-line resources in addition to textbooks and library resources. In 1993, in partnership with Bell Atlantic, the district began Project Explore, which provided 135 7th-graders with home computers and high-speed Internet connections so that students could have access to a variety of on-line materials, such as mulitmedia encyclopedias (which combine text, sound, and graphics) and other reference books.

"Our transiency rate was cut in half,"

Checklist for Technology Planning

1. Don't expect change overnight. Technology does not have a magical ability to turn things around overnight. Instead, plan for the long haul. "The thing that surprised me most was how much time it takes to make technology part of the classroom and do something transformational. You're not going to do what needs to be done in a year," says Jan Hawkins of the Center for Children and Technology (CCT) in New York City. In fact, many of the high-tech districts Hawkins surveyed in a CCT study had committed themselves to a 5- to 10-year time line in their technology plans. How can schools sustain a technology initiative for that long? Researchers currently have few answers to that question. A school district's leadership, its ability to develop technology-using teachers from within its own ranks, and its skill in keeping everyone committed to reform are all likely to be important, though, Hawkins and others say.

2. Start small. Keeping the focus on specific learning needs, such as middle schoolers' writing skills or early literacy programs, is essential. But that's not the way many school technology plans work, researchers say. "School systems often promote technology as a solution for learning before they've identified specific teaching and learning needs," says John Cradler in a 1994 Far West Laboratory report, *Summary of Current Research and Evaluation Findings on Technology in Education.* Some signs that learning isn't at the center of a district's technology initiative: A school technology plan that doesn't link technology to state and local curriculum guidelines or even its own school improvement plan, Cradler suggests.

Martha Stone Wiske, codirector of the Educational Technology Center at Harvard, advocates a similarly specific vision. "Education leaders have to put the education piece first—and they have to keep it first," says Wiske. "They have to figure out how to use technology in the face of a well-conceived education agenda."

For Wiske, that means looking for leverage points, which she describes as places in a school's program where a school needs to make progress but isn't. These are places, Wiske says, "where you stand to advance your cause a lot if you figure out a way that technology can help you." One school Wiske has worked with, for example, analyzed data on student achievement and identified student literacy as its leverage point.

3. Pay attention to equity. *Computers and Classrooms: The Status of Technology in U.S. Schools,* a March 1997 report from the Educational Testing Service, indicates that students attending schools with a high number of poor and minority students have less access to Internet connections, multimedia computers, CD-ROMs, videodisc technology, computer networks, and satellite technology than those attending other schools. Even access to computers alone is skewed: Schools with 90 percent or more minority students, for example, have about one computer for every 17.4 students; schools with less than 25 percent of such students have one computer for every 10 students.

4. Invest in the early grades. According to a Center for Children and Technology study of districts using technology, one strategy for making the most of limited resources is to concentrate first on outfitting classrooms in the lower grades. The rationale: This young cohort of technology-savvy students will in turn push for changes in instruction when its members move into the upper grades. "That way you ride the wave of expertise that students are developing," observes Wiske.

5. Make teachers' needs a top priority. According to Libby Black, an Internet specialist for the Boulder Valley, CO, school district, school administrators need to pay attention to the barriers that can prevent teachers from using technology effectively. If a teacher has to compete with students for computer time, for example, he or she is less likely to make technology part of their everyday plans. Another roadblock: the absence of on-site troubleshooters to provide technical support when computers crash or software won't work. (According to Black, only 25 percent of U.S. schools have adequate technical support.) Other barriers teachers face include a school culture that doesn't value technology and a lack of opportunities for teachers to learn about technology.

—DONNA HARRINGTON-LUEKER

said Carrigg of that project's success. "Families stayed because of the computers."

Test scores rose as well. In 1989, the first year of the district's reform efforts, Union City's 1st-graders scored in the 38th percentile in language on the California Achievement Test (CAT); in 1997, they scored in the 72nd percentile. The 1st-graders' scores in mathematics and writing also increased. In 1989, 1st-graders scored in the 63rd percentile in mathematics and the 34th percentile in reading. In 1997, those scores had risen to the 81st and 79th percentile, respectively.

The district's passing rate on a statewide assessment improved as well. In 1992, only 33 percent of Union City's 8th-graders passed the state's reading test. In 1997, 86 percent passed. In mathematics, 50 percent of the district's 8th graders received passing scores in 1992, compared with 80 percent in 1997. According to Carrigg, other urban school districts in the state have typically recorded 4 percent increases annually in scores on the statewide test, while Union City's increases have been between 10 and 15 percent.

Further, while district scores have risen dramatically, the scores of the 135 students in Project Explore—which makes extensive use of on-line technology—have improved even more, Carrigg said. Ninth-graders in the program scored 7 percent higher in reading and 15 percent higher in mathematics than students in the district as a whole on the statewide assessment. On the writing section of the test, these 9th-graders scored 21 percent higher than others.

Carrigg acknowledges that a number of factors contributed to the rise in scores, but he believes the combination of widescale reform and technology integration was key. "Our test scores went up when we started [reform], and then got another boost when we introduced technology," said Carrigg.

"Targets of Difficulty"

Studies of smaller-scale uses of technology suggest still other ways that schools can constructively use technology. Research at Harvard's Educational Technology Center (ETC) has focused on "targets of difficulty" in mathematics and science—concepts that are crucial to a student's understanding of these subjects but that are also widely recognized as difficult to teach and learn.

Secondary school students, for example, often have difficulty differentiating between heat and temperature—concepts that are fundamental to their understanding of energy transfer, which appears throughout the secondary-level science curriculum. After studying students' intuitive ideas and misconceptions about these concepts—a crucial first step—ETC researchers designed a computer-based laboratory unit that used computer software and other equipment to allow students to deliver various amounts of heat to a liquid and then to view the changes in temperature as a computer graphic. Finally, taking advantage of the computer's ability to provide dynamic visual representations of various concepts, the researchers also developed software depicting heat flow as molecular kinetic energy transferred from one substance to another.

Technology alone isn't sufficient. You have to have a pedagogical plan.

After using the model with 11th-grade students, ETC researchers compared a group of students taught with the models to a group taught with traditional material. Both groups spent the same amount of time on the same topics. Interviews with students showed that students taught with the computer model understood the various thermal concepts, laws, and principals better than students in control groups did, says researcher Marianne Wiser. Specifically, they had fewer misconceptions about the concepts and a greater ability to discuss the distinction between heat and temperature, both theoretically and practically, Wiser found.

ETC researcher Carol Smith is doing similar work with the concepts of weight and density. Working with older elementary and middle school students in urban and suburban schools, Smith has used software that allows students to work with various visual models for their ideas about weight, volume, and density to help them clarify their understanding of these concepts.

Putting Teachers First

Perhaps most important, researchers say, technology won't make a difference in student achievement unless school systems make a substantial commitment to helping teachers learn to use computers effectively. That process, though, could take time. As part of an effort to study what happens when students and teachers have constant access to technology, the Apple Classrooms of Tomorrow Project (ACOT) has tracked the experiences of teachers in several technology-rich classrooms. ACOT equipped these classrooms with computers, printers, scanners, laserdisc and videotape players, modems, an assortment of software, and CD-ROM drives. Over the course of the project, researchers found that teachers moved through five stages:

1. an entry stage, in which teachers struggled to master the nuts and bolts of using computers;
2. an adoption stage, in which teachers began using computer-based activities daily, but primarily for drill and practice;
3. an adaptation stage, in which teachers typically used computers as a way to increase student productivity (students could write better and faster using a word processor than they could by hand, for example);
4. an appropriation stage, in which teachers abandoned their effort to simply computerize traditional practices; and
5. an invention stage, where teachers began experimenting with new instructional patterns, such as interdisciplinary and project-based instruction or team teaching.

Each stage also called for different kinds of support, the researchers found. At the entry stage, for example, researchers found that teachers needed common planning time and opportunities to talk with other staff members, while at the adoption stage they needed nuts-and-bolts technical support to master specific computer skills. During the adaptation stage, too, teachers needed more flexible schedules so that they could observe other classrooms or work together in teams. Encouraging teachers to attend conferences, develop their own assessments, and participate in on-line teacher networks proved to be effective supports in the last two stages.

COMING SOON

Assessing Student Work

ADD Update

New Research on School Size

A nationwide survey of 11 high-technology school districts, done by the New York City-based Center for Children and Technology (CCT), also underscores the importance of teacher training. Among the high-performing districts CCT researchers visited, those that had the most significant progress integrating technology into their curriculum were school systems that had made a substantial investment in teacher training. Among the strategies these districts had adopted were adding professional development days to their calendar, developing a local cadre of technology-using teachers to serve as trainers, providing teachers with home computers, and making certain that teachers had sufficient on-site technical support to keep the equipment running at their site.

Perhaps most important, though, the report concludes, the professional development programs in successful districts went beyond the basics of mastering hardware and software and dealt specifically with reforms in teaching and learning.

For schools trying to make the most effective use of technology, the message many researchers send is clear. "Technology alone isn't sufficient," says Robert Spielvogel, one of the authors of the CCT study. "You have to have a pedagogical plan."

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Integrated Learning Systems Update

By Donna Harrington-Lueker

Among the most common uses of educational technology is the integrated learning system (ILS). Used in a number of schools, especially those serving large numbers of poor children, ILSs present groups of students with computerized lessons in basic skills, such as reading, mathematics, and writing. Students work through the lessons, which are stored on a central computer, at their own pace, and the specialized ILS software keeps track of their responses, providing individual students with immediate feedback about whether their answers were right or wrong, and giving teachers a computer-generated report on each student's progress.

Though the ILS is often criticized as an "electronic worksheet" that focuses on drill-and-practice exercises, many schools use this technology, especially with disadvantaged or low-achieving students, in an effort to boost standardized test scores and improve basic skills.

Two studies published in a 1994 issue of the *International Journal of Educational Research* explore how schools might make the most effective use of ILS technology. The studies suggest that most schools use ILSs because they believe that such self-paced systems will benefit low-achieving students. But when Nira Hativa, a researcher at Tel Aviv University, studied four integrated learning systems being used in the United States and Israel, she found that wasn't the case. Specifically, Hativa says, the lowest-achieving students in the classrooms she studied were "less adaptable to the individual pace of the work" than their higher-achieving peers. They often spent so much time on a problem that the ILS counted their lack of a response as an error. (Many integrated learning systems give students a set amount of time in which to answer a question.) The lowest-achieving students in the class also tended to have poor typing skills, and the computer also interpreted typing mistakes as errors.

The result: In the classrooms she studied, Hativa says, these and other factors caused the ILS to underevaluate the students' performances, leading the machine to deliver material that wasn't appropriate to a student's skill level or that had already been taught in class. (Many integrated learning systems tailor the lessons a student receives. If a student answers all the questions on a reading passage correctly, for example, the ILS will deliver more challenging material in the next lesson. If the student answers a certain number incorrectly, the computer will deliver similar material until the student has mastered the lesson.)

At the same time, Hativa found that the highest-achieving students in the classrooms thrived using ILSs, recording "unexpected and extraordinarily positive gains" in arithmetic and cognitive skills. In fact, Hativa says, these students quickly moved on to material that was two, three, or four grades above their grade level. In their zeal to "beat the computer," these students also developed sophisticated problem-solving and higher-order thinking skills, Hativa reports.

The differences in yearly gains between the two groups of students soon added up. At the second-grade level, low-achieving students lagged behind their high-achieving peers in the same class by between one and two years. At the 6th-grade level, that gap increased to between four and six years. In addition, Hativa found, there was little change in the composition of the

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groups she studied: Students who were low achievers one year remained low achievers the next, as did high achievers and students in the middle.

Further, when Hativa grouped students according to socioeconomic level, she found that after two years of using ILSs, the advantaged students in the classrooms she studied were two-thirds of a year ahead of disadvantaged students.

Henry Jay Becker of the University of California-Irvine took a similarly close look at the way integrated learning systems were used in two elementary school classrooms. In Becker's study, one ILS provided students with a basic drill-and-practice tutorial in mathematics and reading; the other included more material that asked students to analyze and solve problems.

When Becker controlled for variables such as a student's prior experience or a teacher's skill level, he found that neither system was associated with improved student performance. (Becker compared students' previous scores on standardized tests with scores on the California Achievement Test and a curriculum-specific test he devised.)

Perhaps more important, Becker found that even ILSs—which are often seen as teacher-proof—need good teachers to be effective. Since students work at different paces when they use ILSs, teachers need to be especially adept at diagnosing learning difficulties and integrating what goes on in the computer lab with lessons taught to the class. Only one teacher in Becker's study—a 4th-grade math teacher—had this ability, and her students were the most successful using the ILS. "The teacher had knowledge of the system and used the knowledge to better organize learning," Becker said in the study.

The bottom line: When it comes to technology, the classroom teacher plays a critical role—even in the ILS lab.

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Rethinking Homework

Homework should be more than an extension of school work; it needs to expand learning beyond the world of tests and grades

BY ROBERTA TOVEY

In 1901, the state of California voted to abolish homework for children under the age of 15. The ban wasn't repealed until 1929. In 1994—nearly a century later—a district just north of San Francisco entertained the same notion when a member of the school board proposed banning homework from the school curriculum. This time the proposal was rejected: the 3,700 students in the Cabrillo Unified State District still have to do their homework.

The controversy about whether to give kids homework will go on as long as there are teachers to assign it and students to complain about doing it. Even now, while many parents and educators today are demanding more homework, an equally vocal group worries that we are placing too much of a burden on kids, especially the youngest.

"We are [so] anxious to prepare our children for this uncertain future... [that we don't realize] we might be taking away their childhood in the process," one parent writes in "H Is for Homework Hysteria," an article in *Chatelaine* magazine.

Research hasn't resolved the controversy either. Despite numerous studies and more numerous articles on the subject, there is still little agreement about either the purpose or the effectiveness of homework. Harris Cooper of the University of Missouri, whose 1989 study offered the first large-scale synthesis of the research, found "the array of potential positive and negative effects of homework...broad and often surprising." On the positive side, Cooper found that homework results in "better retention of factual knowledge, increased understanding, improved attitude toward school, greater self-discipline." The negative effects include boredom, fatigue, and insufficient time for extracurricular activities.

Homework and Achievement

Most of the research on homework has centered on the relationship between homework and student achievement as measured by test scores and grades. Though the research is not conclusive, studies do suggest a positive correlation. Among the most careful studies done on this subject are four by Chuanshen Chen and Harold Stevenson of the University of Michigan. Chen and Stevenson found that students in Japan and China spend two to four times as much time on homework as their American counterparts, and that time spent on homework appeared to be positively related to academic success.

This is hardly a surprise, says Herbert Walberg of the University of Illinois. "The more you study, the more you learn. It's a fundamental tenet—anything else would defy common sense—that if you study something for five hours you'll learn more than if you study it for half an hour.

"Asking 'why homework?' is like asking 'what's the usefulness of practice?'" says Stevenson. "Why are cognitive activities any different from other activities, like sports, where you improve with practice?"

Harris Cooper gives a more qualified endorsement. According to Cooper, homework is only related positively to student achievement in the upper grades. More important than the amount of homework assigned is the proportion of homework completed. Too much homework actually may be self-defeating, says Cooper, especially for younger students.

Cooper and colleagues recently completed a study of 709 student-teacher-parent triads, which will be published in early 1998. They found that at the elementary level, more homework was associated with negative student attitudes. "It may be better to give younger kids a short assignment that can lead to success, so that they can say 'I got it done,'" says Cooper. "Today there is a trend towards giving large amounts of homework to young kids, but there is no evidence that this will work."

Wherever they stand on the subject, most researchers agree that the literature on homework and achievement is deficient in many ways. "Despite the strongly held opinions about the usefulness of homework," Chen and Stevenson write, "there are few empirical studies that support or refute these opinions." Walberg and colleagues did a meta-analysis of all the research on homework for the 1994 edition of the *International Encyclopedia of Education.* Of the 5,000 articles they examined, "only 15 to 17 had real data," Walberg says.

There is a paucity of well-designed empirical studies; few have large samples or follow the same students and teachers over time, and about two-thirds are in math and science. Taken together, these studies make for a weak basis on which to build any conclusions about homework's relationship to achievement.

Beyond Achievement

But by far the greatest flaw of the research on homework is precisely that it has focused so narrowly on student achievement. "There is very little research on other homework outcomes, like attitude, motivation, and study habits," says Cooper. "While people first think of homework as a way to accelerate knowledge acquisition, it teaches other things as well. Any data on these potential outcomes of homework—really the outcomes that make homework unique—would be better than the evidence we have now."

"The biggest criticism of the research is that it measures only success in school, and success in school is not success in life," says Walberg. "Research on homework and achievement may be conflicting, but there is no doubt that to attain very high levels of accomplishment, brains are not enough. You have to learn how to apply them. You have to learn self-discipline, how to set your own goals. It is terribly important to look into other things homework teaches."

Indeed, when you ask teachers why they assign homework, they do not usually say "to improve student grades or test scores." Quite the contrary. "The trouble with homework designed to help kids do better on tests is that they don't really learn the material," says Alma Wright, a 32-year veteran of the Boston public school system. "For example, if I give them spelling homework, they learn to spell the words for the test, but then they can't spell the same words when they're writing a story!"

Wright's idea of homework is having kids take what they learn in school and apply it to their real lives. When she is teaching arithmetic, for example, Wright might ask her 1st-grade class to count the chairs in their homes and then write something about their favorite chair.

> ***The trouble with homework designed to help kids do better on tests is that they don't learn the material.***

"Kids need a reason to learn that goes beyond test scores," says Muesi Willingham, a Boston public high school teacher who prepares juniors and seniors for the SATs. Willingham strives to tap into his students' interests when he assigns homework. "If students can take the skills they learn in school and transfer them to their own lives, to something they are interested in, they will make their own commitment to learning," he says. In one of Willingham's most successful assignments, students wrote a newsletter that advised the next year's seniors about the SATs and applying to college.

Homework can expand learning beyond the school world of tests and grades, say many teachers today. Bill Badders, an elementary and middle school teacher in Cleveland, OH, sees how his homework assignments have evolved over 26 years from "traditional" practice and reinforcement into something quite different. Now Badders prefers to give homework that taxes the imagination. A science assignment might be to write two pages about the following: "This week my teacher ate a grasshopper. What happened to him?"

Teaching for Understanding

Teachers like Wright, Willingham, and Badders believe that students learn best and will become most engaged if they can use what they've learned in school in ways that are exciting and meaningful to them.

David Perkins, codirector of Project Zero at Harvard's Graduate School of Education, calls this kind of teaching "teaching for understanding." A growing trend in educational theory, teaching for understanding is teaching that "engage[s] students more deeply and thoughtfully in subject-matter learning," Perkins says. Related approaches include teaching for transfer, teaching for thinking, and the interdisciplinary curriculum. To really learn, students need to process class material in a variety of ways and in a variety of situations, rather than simply memorizing and regurgitating it.

Marguerite Santos, who has taught elementary school for 27 years in Revere, MA, does not call her approach "teaching for understanding," but when she talks about homework, she sounds like Perkins. "I assign homework to build a connection between home and school," she says, "to help kids develop what they learn so they remember it better."

When Santos teaches her kindergartners the letter "B," she doesn't ask them to go home and write the letter 20 times on a piece of paper. She gives them a paper bag and says, "Find something in your house that starts with the B sound, and bring it to school with you tomorrow." Then the class tries to guess what B-word is in the bag.

Teaching for understanding is an outgrowth of several interrelated theories of intelligence that have emerged over the last 15 years. Rejecting the traditional theory of a single intelligence quotient, such theorists as Howard Gardener, Robert Sternberg, Stephen Ceci, and David Perkins argue that abstract, analytical intelligence (the kind measured in IQ tests) is only one kind of intelligence among many, and only one way among many ways of thinking. Furthermore, these theorists argue, intelligence does not exist in a vacuum, but in the context of a person's family, culture, and experience.

One area in which these perspectives on intelligence have had an impact is assessment. Educators increasingly question the validity of standardized and IQ tests, and many incorporate performance-based examinations and exhibitions into their curriculum. Expanding the traditional models of intelligence has also led educators to reexamine how different students learn, and to call for an approach that broadens and deepens all students' understanding of what they learn.

Homework with Meaning

How does homework fit into all this? "What underpins the idea of understanding is *performance*," says Perkins, "thinking with and through the knowledge you have. Understanding a topic of study is a matter of being able to perform in a variety of thought-demanding ways with the topic—to explain, muster evidence, find examples, generalize, apply concepts, analogize, represent in a new way, and so on."

> ***Homework can expand learning beyond the world of tests and grades.***

Because it is done away from the classroom, without the time and space restrictions of work done in school, Perkins says, "Homework, or the time allocated to homework, is an opportunity for expanded kinds of performance."

But not just any homework. "Homework today is mostly of the 'can you do this?' or 'do you know X?' kind," says Robert Sternberg of Yale University. This kind of homework enhances "only one kind of ability—the memorizing fact-based kind; trivial pursuits. So students can't transfer it outside of the context, they can't apply it to other realms." Like Alma Wright's student, who could spell a word correctly on a test but could not when she used it in a story, "they don't really learn it. The problem is that it's *encapsulated*."

It's no surprise that, if given the choice, Wright says she "would do without worksheet homework." Bill Badders in Cleveland puts it this way: "If it were completely up to me, I wouldn't give drill and practice homework—I'd give homework with meaning."

Homework with meaning, homework "that goes beyond the material given" does several things, says Sternberg. "One, it develops students' analytical, creative and practical thinking skills. Two, it gets students to encode information in multiple ways so they process it more deeply—the more ways they process it the more likely they'll learn it. Three, it enables students to capitalize on their strengths and compensate for their weaknesses. If they can't do the homework one way they can approach it in another away."

Homework of this kind does more than improve test scores. It helps students gain a deeper understanding of the material, gets them involved in their learning, and strengthens their motivation. "Using knowledge or skills in your own environment makes that knowledge personal—it becomes yours," says Tina Grotzer, a research associate at Harvard University and former elementary school teacher. "And if you personalize something, you've created an inclination."

Kids who take charge of their own learning are more motivated, says Stephanie Mattson, who teaches elementary school in the Clark County School District in Nevada. "Otherwise they think 'what's the minimum I can do?'" Mattson likes to have her older students come up with their own homework assignments. In the primary grades, taking charge may be no more than knowing what the assignment is, being responsible for getting it done, knowing where you put it, and bringing it back to your teacher.

"Taking responsibility for your own learning is not just a school skill, it's a life skill," says Mattson.

Homework Redefined

We tend to stereotype homework, think of it too narrowly, say educational theorists. Perhaps the real question is not "why homework?" but "what kind of homework?" Wright laughs that when she gives a homework assignment like "count the chairs in your house and write about your favorite one," parents say, "Is *that* homework? Why don't you give spelling homework?"

"I don't even like the word *homework*," says Perkins. "*Home* suggests that it's done at home, when in fact it can be done in lots of places—the backyard, the mall, the grocery store.... And I don't like the word *work* because it suggests a tedious regimen. It's also a play on *school work*, which suggests that it's school work you didn't have the time to do in school."

Seeing homework that way is "a huge missed opportunity," says Perkins. He suggests that educators create assignments that can't be done in school, not because of time but because they call for outside sources and data. "The conventional assignment of this sort is a term paper," says Perkins. But why not a well-documented community project, a study of local wetlands, or a collaborative enterprise that involves family members or other students?

Like Perkins, Harold Stevenson believes that we underestimate homework's potential. "We need to give students an opportunity to practice trying to understand," says Stevenson. "In East Asia meticulous care is given to the construction of homework assignments. It's a great contrast to the routine assignments given in the U.S. Here we don't recognize that changing a child's mind is as complex as open-heart surgery."

It's not easy to come up with homework that applies learning to new ideas and situations, homework that asks students to both deepen and broaden their thinking—ask any of the teachers who do. But it may make all the difference.

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